

**Perspectives of disabled students on their experiences
with disability support services in higher education in
Thailand**

Submitted by
Sucheera Polrachom

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Abstract

The increased number of disabled students in Higher Education (HE) means that they have increased opportunities for study. This means that universities in many countries, including Thailand, must provide Disability Support Services (DSS) for such students. The experiences of disabled students with DSS have been the subject of international research for many years. Although DSS were founded in universities in Thailand over a decade ago, there is little research on DSS and most of this research has focused on large universities in the capital city. This thesis, therefore, seeks to address this gap in the research by investigating the experiences of disabled students in 21 universities in all of the regions of Thailand that have DSS for disabled students attending university.

The aim of this study is to explore and analyse the perspectives of disabled students on their experiences with DSS in HE in Thailand. The research objectives include the examination of disabled students' conceptualisations of DSS, the exploration of disabled students' experiences of access to DSS, and the exploration of their views on the advantages and disadvantages of DSS. To achieve these objectives, the study uses a mixed-method research approach formed of two stages. In the first stage, a questionnaire was conducted online via a web survey for disabled students with over 203 responses. In the second stage, the study adopted a qualitative approach and data was collected by means of individual in-depth interviews with four disabled students.

The research finds that disabled students know about DSS in HE. Some disabled students were familiar with DSS before commencing their studies at university and others only knew about DSS after having commenced their studies at university. In terms of disabled students' experiences of access to DSS, the findings show that most disabled students use DSS. In particular, they use DSS for help with induction, registration, and enrolment services. In terms of the exploration of disabled students' experiences of access to DSS, this research shows that the

students undertook different procedures for accessing DSS. There are also different time lines for providing services to the students. Additionally, there is dissimilarity between non-open universities and open universities in terms of the services provided by the DSS centre, the learning system, the method of providing services, and the means of the implementation of the services. Regarding the advantages and disadvantages of using DSS, disabled students identified the advantages of DSS in various ways, specifically which DSS are useful for helping them access financial support from their university and for helping them learn and enjoy university life. In addition, some of the students did not experience the advantages of DSS as they did not use the services. They are able to learn without such assistance.

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List of Acronyms

CFBT	The Christian Foundation for the Blind in Thailand
CRPD	Committee on the Rights of Persons with Disabilities
DSA	Divisions of Student Affairs
DSS	Disability Support Services
FBT	The Foundation for the Blind in Thailand
HE	Higher Education
LD	Learning Disability
OBEC	The Office of the Basic Education Commission
OHEC	The Office of the Higher Education Commission
OR	The Office of Registration
OVEC	The Office of the Vocational Education Commission
TAB	Thailand Association of the Blind
TSL	Thai Sign Language
RU	Ramkhamhaeng University
UDHR	The Universal Declaration of Human Rights

Chapter One

Introduction

1.1 Introduction

Awareness of the right to education for disabled students at international level has impacted favourably on their ability to enter the education system. This can be seen in the increasing number of disabled students leaving secondary schools to study further at Higher Education (HE) level (Kundu, et al, 2003; Leyser et al 2011; Timmerman, 2014; Wolanin and Steele, 2004). This level of education has become more accessible to students, since it has become an important part of improving career prospects (Kurth and Mellard, 2006) as well as the quality of life for these learners. Moreover, many years of HE provides valuable time for learning academic and other skills, establishing connections with people, and preparing for the transition to employment. These advantages of HE make it attractive for learners, including disabled people, who choose to enter HE institutions to develop their life and career prospects.

1.2 Background and rationale

As there has been an increasing number of disabled students in HE in recent years, Disability Support Services (DSS) have been established to support these students and provide a variety of services for them (Dhillon, McGowan & Wang, 2006; Stein, 2013). This is because general services in HE institutions may not always meet the needs of disabled students, who have different needs depending on their specific disabilities and may need access to specialist facilities (Sindhusiri, 2012). Stein (2013) found that the support provided by DSS is essential for disabled students, as DSS staff members have the necessary professional training to enable them to understand the various needs of disabled students. Therefore, the notion of using DSS centres for supporting disabled students in HE appears to have become an important practice that many countries in the West employ to

support disabled students. For example, in the UK, HE institutions have legal obligations under the Equality Act 2010, which provides that such institutions cannot discriminate against students with disabilities (Roberts & Hou, 2016). Therefore, HE institutions are required to make reasonable adjustments for supporting disabled students. Such reasonable adjustments could be in the form of academic adjustments and support via a DSS centre. In the US, HE institutions also make reasonable adjustments for supporting disabled students, as guided by the Americans with Disabilities Act (1990) and section 504 of the Rehabilitation Act (1973) (Konur, 2006). These Acts provide broad non-discrimination protection in HE institutions for disabled students in order to provide them with equal opportunity to participate in all HE institution activities and to benefit from all services in the HE institutions. Most HE institutions have established DSS offices or centres for assisting disabled students (Katsiyannis et al., 2009).

The notion of DSS in HE in many countries appears to have advantages for providing HE for disabled students. Therefore, Thai educators have taken on board this notion and implemented it in Thailand over the past two decades. DSS have since become a component of educational provision for disabled students in Thailand. However, awareness about the importance of education for disabled students seems to be limited among non-disabled people in Thai society; therefore, awareness of the need for any support in learning for these students appears to have limited importance. As a result, the notion and practice of DSS in Thai HE thus encounters many problems. There have been many research studies which show that disabled people in Thailand appear to have limited access to education at every level (Kosuwon, Viriyangkura, & Swerdlik, 2014; Vorapanya & Dunlap, 2014). This is because Thai society tends to view disabled people in a negative way, as having a lower status than those who are not disabled. It is believed that education does not benefit disabled people, and they were traditionally cared for by their family and state welfare. The notion of education being important and of benefit to disabled people came to Thailand from educators from western countries who came to work with Thai disability organisations and from Thai educators who studied in western countries (Vorapanya & Dunlap, 2014). The government demonstrated its awareness of this issue of providing education for disabled

students by building special schools for them and by formulating appropriate policies (Kosuwan, Viriyangkura, & Swerdlik, 2014).

In 1999, the Thai government proclaimed the National Education Act B.E. 2542, the main legal Act for developing education for disabled students (Vorapanya & Dunlap, 2012). This Act supports the students in their access to education, especially disabled students in HE. Some universities participated in a pilot project using DSS for supporting disabled students at the HE level and in 2003, the Thai government established DSS centres in some universities to support the learning of disabled students (Kachondham, 2010; Songcharoen & Nongthong, 2010). Sri-on (2006) noted that disabled students have studied in Thai HE since the 1960s when the support services for the students were informal, such as assistance from family, peers, lecturers and other faculty staff. Since 2003, services have been obtainable in the DSS centres and are regulated by the Office of Higher Education Commission (OHEC). This means that, under government policy, such as the National Education Act B.E. 2542, Second National Education Act B.E. 2545 and the first Education for Disabilities Act B.E. 2551), universities have a duty to provide appropriate support for disabled students as required (Udompiriyasak, 2010). Consequently, each university now has a procedure for receiving disabled students who require services from the DSS centre, which commences with completing an application form and registering with the DSS centre. These procedures allow the university to record the number of disabled students and provide appropriate services for them. Moreover, this information is reported to the government by universities in order to manage the financial support for the DSS for disabled students in each university. In 2010, the first Education for Disabilities Act B.E. 2551 for providing education support for disabled students in HE announced by the OHEC become the standard of educational provision for their disabled students in Thai universities (Sindhusiri, 2012).

Although the government has supported disabled students in HE through several methods, as noted, implementation of the DSS notion in Thailand appears to have encountered many problems. Previous research in Thailand has consistently indicated many of the problems in providing services for disabled students in HE

related to government policy. For example, Puchthonglang et al. (2011), and more recently Maneerat (2016), point out that, although there is a policy of educational provision for disabled students in HE, most universities have still not provided support for these students. There still seems to be a lack of a clear policy that affects the practice of universities and staff in providing services for disabled students (Wanitpiput, 2015; Yodkhampang, 2013). Moreover, the students face problems at every stage of entering into HE study, such as choosing a university (Wanitpiput, 2015), as the government's policy is not clear about whether the universities should receive disabled students. As a result, some universities prevent disabled students from studying at their institution as they do not have available support for disabled students; other universities allow disabled students to enter, but as many do not have DSS centres, the students need to complete their study without any specific university support. In addition, some disabled students have problems during their study and must drop out as problems with the DSS, such as insufficient services, shortage of staff and specialist staff in services, provide too many difficulties in accessing support (Pengpae, 2010; Puchthonglang et al, 2011; Sindhusiri, 2012).

I became interested in studying the development of DSS in HE in Thailand as it has many interesting aspects. My motivation relates to the fact that I am a disabled person and have my own experiences of studying both with and without DSS in HE in Thailand. I am aware that it is not easy for disabled students to enter, study, and achieve at the HE level. Moreover, my experiences as a disabled student in HE span both the era of learning in HE without any support from the university and the new era of supporting disabled students through DSS centres in HE. For example, I received help at university through a buddy system when I was a full-time postgraduate student. The buddy helped me with academic skills and social skills, for example, the buddy tutored me in some modules and helped me to use a computer and the internet, which were new to me and important for my postgraduate studies. I had not experienced inclusive study in secondary school or at undergraduate level, as I studied by myself via distance learning at home at both levels. Although I received only basic services when studying at postgraduate level before the formal establishment of DSS in HE in Thailand, the services helped me

in various aspects during my studies. The year after I received the services, I became a volunteer in a project providing support services for disabled students at university. I was responsible for providing support services for visually impaired students and hearing-impaired students. I learned many things about providing information for them via several methods, such as making audio books for visually impaired students, note taking, and interpreting in Thai Sign Language (TSL) for hearing-impaired students.

In addition to receiving services from the DSS in HE, I have had experience of providing these services for disabled students myself, since I have worked in the special education area in a Thai university as a researcher and lecturer in the special education field, and as a member of the DSS team supporting disabled students. I used some experiences from receiving services from the DSS centre to help me provide support to disabled students in classes, such as planning services for hearing-impaired students via TSL interpreters and note takers, finding buddies for disabled students, and training lecturers and non-disabled students on inclusive study for disabled students in classes. All my experiences with DSS in Thailand made me aware of the role of DSS and the fact that disabled students seem to find it difficult to learn without support from the university, as their limitations due to their disabilities may cause problems with accessing services and studying in HE, which does not affect non-disabled students. However, DSS centres can help disabled students to overcome these problems.

I have also had the opportunity to study at doctoral level in the UK, which has given me a different experience and understanding of the role and importance of DSS in HE, as I have received services from the DSS centre since I applied to the university. For example, I have received support in finding accommodation, addressing problems with travelling, and preparing for examinations. These services not only support my academic studies, but also support my life at university in the UK. DSS staff made me aware that support for disabled students in their life at university is as important as academic support, as, if the students do not have problems related to their life at university, they can concentrate on their

studies. This means that disabled students can focus on learning without worrying about other problems.

In my experience, it seems that DSS centres in Thailand focus on academic support rather than other types of support, such as student life support services, which may have an impact on the studies of disabled students. However, receiving both academic support and student life support seems important for learning in HE. Therefore, I am interested in exploring the stories and experiences of other disabled people in the Thai HE environment. Moreover, although the number of DSS centres in Thailand has increased over the past decade, the importance of the DSS in supporting disabled students in HE is left unclear, and its role in HE is not widely known in Thai society. While the number of disabled students entering HE in Thailand has increased, they still appear to encounter difficult situations at each stage of the transition to HE. These include finding information about the university, the application process, studying in classes, preparing to enter the job market, and student life at the university.

Although DSS in HE has developed for supporting disabled students for over a decade in Thailand, an examination of the literature relating to DSS in HE, as developed in chapter 2, found few research studies in this specific area. While the literature at the international level focuses on various aspects of providing and using DSS in HE, for example, for different types of disability, for academic versus social support. Although there have been many studies about DSS in HE in Thailand, most focus on the provider of the DSS; for example, there have been studies on the administration of the DSS model and the perspectives of staff and professionals who work in DSS (Pengpae, 2010; Udompiriyasak, 2010). These studies are presented in Chapter 2. Meanwhile, there is limited information about the perspectives of the disabled students themselves regarding their use and experiences of DSS. I think that the perceptions of the disabled students are important for reflecting on the DSS in HE in Thailand as they experience this support situation in real life. Moreover, the findings in this study may be used to help to develop DSS in Thailand and this will be related to the development of the quality of educational provision for all Thai students.

1.3 Research Aims and Objectives

The overall aim of this study is therefore to explore and analyse the perspectives of disabled students concerning their experiences with disability support services in HE in Thailand. In relation to this overall aim my research focuses on three specific objectives as follows:

- 1) To examine disabled students' conceptualisations of disability support services.
- 2) To discern disabled students' views on accessing and using disability support services.
- 3) To discover disabled students' views on the advantages and disadvantages of disability support services.

1.4 Research questions

There are three main research questions as follows:

- 1) How do disabled students in HE in Thailand conceptualize DSS?
- 2) What are the experiences of disabled students with regard to access and use of the DSS?
- 3) What are the advantages and disadvantages of the DSS according to disabled students?

1.5 Structure of the Thesis

This thesis consists of six chapters, outlined as follows:

Chapter 1 provides a brief introduction to the rationale of the study and an overview of the research aim and research questions. Further, this section presents the way in which the thesis is organized.

Chapter 2 the literature review is divided into two main sections. The first section presents and analyses the literature on DSS at the international level. This section starts with definitions of DSS and then discusses the role of DSS in HE and the theory, model and concepts used in DSS centres. The second section presents

and analyses the literature on the situation in Thailand and gives a brief introduction to its education system and the provision of education for disabled students, including HE, in Thailand.

Chapter 3 details the research methodologies used in this study. A presentation of the mixed methods' approach is outlined, in which both qualitative and quantitative approaches are utilized: online questionnaires and in-depth interviewing. This chapter then highlights the sampling strategy, the data collection process and how the data was analysed. The final discussion concerns ethical issues in this research. The limitations of this research are also identified.

Chapter 4 presents the results of the research, which are divided into two main sections. The first section presents the data gathered from the online survey, consisting of demographic data, the experiences of using the DSS centre, the advantages and disadvantages of using the DSS centre, and some suggestions for future consideration. The next section presents the 'live' data gathered from the interviews with four disabled students about their university experiences with the DSS.

Chapter 5 provides a discussion of the impact of developing DSS in Thailand on numbers of disabled students in HE, the role of models of disability in DSS in Thailand, the conceptualisation of the term DSS by disabled students, the experiences of disabled students with regard to accessing and using DSS, including: the disclosure of disability to the DSS Centre, the procedures for accessing DSS, the different DSS service methods in Thailand, the differences in DSS access for disabled students by timeline, and the perspectives of disabled students on specialist DSS centres and general services. The next section examines the advantages and disadvantages of the DSS centre from the perspective of disabled students. Finally, the specialist DSS centre and general services from the perspective of disabled students will be presented and discussed.

Chapter 6 the conclusion of the thesis, summarizes the main findings of this thesis according to the objectives. As well as outlining the key contributions of this study,

implications of the research and suggestions for further research in HE are also identified.

Chapter Two

Literature Review

2.1 Introduction

The purpose of this chapter is to review and analyse the previous literature on disabled students' perspectives of their experiences with disability support services in HE in Thailand. The first section provides an overview of DSS, which includes a provision of separate support services for disabled students in HE by DSS, theory, concepts and models used in the creation of the DSS, the role of DSS in HE, accessing the services of the DSS centre in HE, services for disabled students in HE and types of services that the DSS offers. The second section provides an overview and analysis of the DSS in context of Thailand and provides a brief introduction to its education system, analyses the provision of education for disabled students and particularly the provision of education in HE for disabled students.

2.2 Overview of DSS

2.2.1 Provision of separate support services for disabled students in HE by DSS

Support services for disabled students in HE are usually provided via general services that can be found in the context of university departments. Disabled students also receive support in their academic studies and socialisation in the same way as non-disabled students. Awareness of the need for equality of services for all students, however, means that disabled students may need services that are specifically appropriate for their disability. Moreover, a DSS centre often includes specialists from various fields involved in education for disabled students who can use their expertise to provide services for the students. Previous research has shown that the services provided by DSS centres appear to be more successful than the services from general staff in the departments at a university. For example, a study conducted by Hong and Himmel (2009) found that

providing services for disabled students by the general staff, such as the faculty staff, may not be effective due to problems such as their lack of knowledge about disability and disability legislation. Further, Madaus (2011) states that a DSS centre provides services to disabled students using professionals from various fields and that this process can provide more appropriate services for the students as professionals understand situations based on their accumulated specialist experience.

A survey conducted by Bolt et al. (2011) on students' perceptions of accommodation in high school and college in the US found that 55 disabled students from 17 university and college institutions who participated in the study preferred separate services at university. As some disabled students had experience with support services from the DSS centre in a secondary school, the students seem to understand the process and advantages of the services of the DSS centre and prefer separate services to general services. The survey conducted by Bolt et al. (2011) also shows that providing services via the DSS centre appears to be successful for disabled students, as the services provided by this centre are based on the experience of the specialists, who understand disability more than the general staff. Some researchers argue, however, that the provision of separate services that are suitable for disabled students via the DSS centre appears to have negative points and affects the learning and student life of disabled students. Tugli et al.'s (2014) journal article *Critical Elements of the Social Model of Disability: Implications for Students with Disabilities in a South African Institution of HE* states that disabled students need to integrate into society rather than being a separate entity requiring segregated services; therefore, the provision of separate support services should be based on "human diversities and differences for all students alike, not just those with disabilities" (Tugli et al., 2014, p. 334), as lacking awareness will lead to discrimination and fragmentation of the social structure of the educational institution.

Moreover, some disabled students felt negative about separate services for disabled students as they seem to be a special group and differ from non-disabled students. On the other hand, the various groups in the HE institution, such as the

non-disabled students, tutors and university staff, may not understand the need for different support for disabled students, which may lead to negative attitudes and discrimination (Lightner et al., 2012). For example, peers may view disabled students as being incapable of studying and working in class, which leads to peer rejection. These situations appear to be complex situations for disabled students that relate to the disclosure of disability and receiving support services from the DSS centre, which will be discussed in the disclosure of disability section.

To sum up, supporting disabled students in HE is an established part of the support available to students in all HE institutions; however, the process of this support may differ from providing general support services as it focuses on specific student groups, such as disabled students. Furthermore, the support services for disabled students use a range of specialists in order to provide appropriate services for the students.

2.2.2 Theory, concepts and model use in the DSS

A number of concepts and models underpin DSS in HE.

2.2.2.1 The educational rights of people with disabilities concept

One conceptual framework underpinning HE DSS is that of educational rights of people with disabilities. Since the 1940s, this concept has become an important worldwide focus, promoted by the United Nations (UN) and UNESCO. These are both organisations concerned with disabled people being able to access education and providing a framework for developing education. This began with adaptation of the Universal Declaration of Human Rights (UDHR) in 1948 (Moyn, 2014) and the Human Rights Education (HRE) has been a focal point of the UN's work ever since (Gerber, 2011). The UDHR defined education as the means to building knowledge, skills, attitudes and behaviour to promote the development of the human personality and to demonstrate respect for human dignity (McCrudden, 2008). This definition has been used in the provision of education in all sectors of society, including national school systems and lifelong learning. The declaration imitated the covenant specific to upholding the rights of children (UNESCO, 2009). The

framework for action to meet the specific learning needs of people with disabilities had been first been strengthened at the 1990 Jomtien World Conference on Education for All (Ratanasakorn, 2009). This conference had a significant effect on reforming education in Thailand, with particular emphasis on development under the educational rights concept.

In many countries, the proclamations of declarations of the UN and UNESCO have been crucial instruments in the promotion of rights and opportunities for disabled people. Prior to their appearance, there were limited rights for disabled people, as can be seen in the restrictions on public services and in schooling (Ratanasakorn, 2009). Moreover, the concept of educational rights for disabled people led to an increasing number of disabled students in the education system. In addition, there was an increasing awareness of their rights to access the appropriate services that would support their learning. Thus, the services provided for disabled students by the DSS in HE have paid attention to their rights. This means they can access learning and/or activities in the university in the same way as their peers (Madaus, 2011).

2.2.2.2 Medical Model

The medical model is the traditional model of disability that focuses on the impairments of disabled people. These impairments are considered to be the cause of problems of disabled people and they are regarded as needing to be treated or rehabilitated (Harpur, 2012). Therefore, as the concept of the medical model focuses on the impairments of disabled people, rather than structuring society for disabled people and they must adapt themselves to society. An example of this would be in Thailand, where many wheelchair users are unable to travel by bus as buses do not have a ramp to make them accessible for wheelchair users. The medical model would focus on the reasons why the individual uses a wheelchair rather than focusing on the lack of accessibility for wheelchair users to the bus. Regarding this situation, it can be seen that the medical model views disabled people as having a problem that makes them different from other people. Moreover, the medical model appears to separate disabled people from society

through the measurement of disability and creates limitations for disabled people in society (Sullivan, 2011).

The medical model has powerful connections in the education area, especially special education, which is often required for students with special needs in order to address the individual differences and needs of the student. Massoumeh and Leila (2012) explain that the medical model has adopted this role via a process of categorising disability and this process leads to finding conditions and appropriate ways for supporting disabled students. It seems to be clear in the example of applying the medical model in special education, in which special schools are created for disabled students and special support provided for disabled learners, that this process appears to be useful for enabling these students to access education. Moreover, Williams et al. (2008) point out that the medical model has had a significant influence on the measurement of disability as the measurement process identifies information about disabled students, such as their disability, limitations and need for support (Waterfield & West, 2011). However, the application of the medical model seems to label disabled students, resulting in other people perceiving that the students are different and incompetent. These views may have a negative impact on the disabled students, such as increasing separation and discrimination (Matthews, 2009; Sullivan, 2011). The connection between the medical model and DSS was found via using a process of categorising disability of medical professionals and finding services for disabled students by DSS staff. It means that before receiving services from a DSS centre in HE, disabled students need to have had their disability categorised, thereby enabling them to receiving support services from a DSS centre (Massoumeh & Leila, 2012). Mole (2013) states that although DSS centres use a social model for providing services for disabled students, it seems paradoxical to ask the students to prove their disability by medical documentation which relates to the influence of professionals and medical diagnoses that then leads to the provision of services for disabled students.

In Thailand, the relation between medical model and providing DSS in HE for disabled students also relates to categorising disability before issuing a disability

card under the Empowerment Of Persons With Disabilities Act, B.E. 2550 (Ministry of Social Development and Human Security, 2014). This Act relates to providing a disability card to disabled people in Thailand and enabling them to access support services from the government so a medical model seems to have the role of categorising the disability of disabled people by medical professionals. Therefore, medical proof provided by professionals seems to have influence in disabled people getting a disability card so that they can access support services from government, and additionally, this card appears to represent evidence of disabled students' right to access support services from a DSS centre (The Higher Education Commission, 2011). It can be seen that the role of the medical model appears to be important in enabling disabled students to access the support services of the educational DSS centres. This is because if disabled students request services from a centre, they need to pass an important stage in the application process, which involves their disabilities being evaluated by medical professionals to obtain a disability card which they can then present as evidence of their disability. However, in the case of disabled students without a disability card who need support services from a DSS centre, they need to provide medical evidence of their disability, such as a medical certificate, to the centre (The Higher Education Commission, 2011). It seems that it is necessary for medical professionals to evaluate and categorise disabilities before disabled students can access services provided by DSS centres as these centres require proof that students are disabled before they can access the services available from a DSS centre.

It is noted that the medical model appears to have a great impact on education for disabled students in HE. This model shows the role the medical process plays in categorising disabled students, which leads to the provision of appropriate services to support the students. Since the 1960s and 1970s, people's perceptions of disability have been changed by the organisations for people with disabilities and by the growing tendency to see disability as a human rights issue in the social model (Hari, 2016).

2.2.2.3 Social Model

The social model of disability was developed in the 1970s by the US organisation 'Union of the Physically Impaired Against Segregation' (Shakespeare & Watson, 2001). This model developed from traditional medical model notions regarding the thinking and beliefs about disability. The social model focuses on addressing the problems of disabled people caused by society, such as culture and its environmental barriers, discriminatory acts, and socially stigmatising attitudes (Shakespeare & Watson, 2001; Taylor, 2005), which negatively influence disabled people's societal participation and citizenship status (Giffard-Lindsay, 2007). Conversely, as already noted, the notion of the medical model focuses on individual problems of disabled people rather than the social factors, and pays more attention to treatment and rehabilitation (Healey, Jenkins & Leach, 2005). Moyne (2012) points out that the medical model appears to affect the thinking of people in society about disabled people. For example, some segments of society tend to think that disabled people have different bodies and minds than 'normal' people, which leads to discrimination in society, education and employment. The social model proposes, however, that these problems are not caused by a person's impairment but that the causation is the social conditions. Therefore, changing these conditions makes it possible to improve opportunities for disabled people (Zajadacz, 2015).

The social model has been implemented through the removal of barriers in society to increase opportunities for disabled people, especially in the context of education. In this context, the application of the social model has fundamentally changed the way in which policies and laws regarding the right to education of disabled people are developed (Mole, 2013). An example of this can be seen in the development of education laws that are an important tool to remove barriers in discrimination on education, and the laws can increase opportunities for disabled people in schools, colleges and universities. Moreover, the solution regarding the learning of the disabled students using the social model can be via the establishment of the DSS centre to support disabled students. Healey, Jenkins and Leach (2005) explain that in the context of human environments, providing ramps, Braille and assistive

devices can help disabled students to participate in teaching and learning activities. Moreover, this support might be an important factor affecting the students' ability to succeed in HE (Van Noy, Heidkamp & Kaltz, 2013).

HE supports the social model for providing education for disabled students via the establishment of the DSS centre, which provides them with the opportunity to fully participate in their chosen course and the university experience (De Montfort University, 2017). The DSS centre help assess disabled students of the DSS centre meet these opportunities. Providing a variety of services such as ramps and Braille and assistive devices can help disabled students to participate in teaching and learning activities (Healey, Jenkins & Leach, 2005). Moreover, a social model view would determine ways to make all aspects of university life accessible from the outset of the disabled student experience (Mole, 2008).

Regarding the three conceptualisations or models that underpin the DSS centre in HE, the educational rights of disabled people, the medical model and the social model, these appear to all be important notions for assisting disabled people in the education area. The notion of the educational rights of disabled people seems to be the starting point for building awareness of equal rights for disabled people; therefore, awareness of education for disabled people seems to develop with these rights. In order to provide equality in education for disabled people, the process of the medical model in diagnosing disability can be used to prepare suitable accommodation for disabled people. This seems to be an appropriate way to assist disabled students in the view of the medical model; however, the different view of the social model is that the students need to be supported using a holistic approach. As the medical model has played a significant role in shaping society for a long time, it may take time for society to accept the social model, as the social model is still new and has not spread across the globe (Gilson & Dymond, 2011).

2.2.3 The role of DSS in HE

It is apparent from the preceding discussion that the primary role of the DSS is to work with disabled students by providing supporting services, and offering these to the disabled student enrolled in HE via the DSS centre and/or any other part or

divisions in HE institution. Thomas (2000) explains that the DSS centre that helps disabled students with learning is an integral unit that the HE needs to be responsible for in order to provide adequate support for disabled learners. As noted, these services relate to providing materials for learning, coordinating with disabled students and, when required providing appropriate accommodation for these students. The ultimate aim, therefore, is to ensure disabled students have an equal opportunity to achieve in academia (Council for the Advancement of Standards in HE, 2006). Such services should respond to the needs of disabled students, promote their learning, and help to improve access to the many programmes and activities offered by HE institutions (Furman University, 2012). However, the role of the DSS in HE is not only to support the students in academia, but also to support them in receiving the benefits of a university experience (Cooper, 2010). Hall and Tinklin (1998) indicated that a social life at university is an important part of HE learning for disabled students. Developing relationships, making new friends in university and feeling socially accepted is important for disabled students and integration with friends and peers will support their academic achievement (Patrick & Wessel 2013).

As indicated in the literature, there are some disabled students who have problems with their social life at university, which may have a negative impact on their university experiences (Tse, 2012). For example, some disabled students find it difficult to start making relationships with other people, while others feel different from peers and have difficulty working with groups. These situations illustrate the complexity of having positive experiences at university for disabled students. Thus, the DSS plays an important role in addressing the difficult social situations and challenges that disabled students face.

In helping disabled students with the challenges that they face in their social life at university, the DSS can provide a range of support services, such as social skills training and providing social activities (Woodie, 2007). These support services aim to integrate disabled students and non-disabled students. They support and help them to learn from each other so they can make friendships and improve personal skills, such as self-esteem and confidence; these things are important to a

student's life at university. In particular, there are many previous studies that have found that the DSS has a significant role in support of the development of social skills of invisible disabled students in HE, such as students with learning disabilities, students with emotional/behavioral disorders (Hall & Tinklin, 1998; Momeni et al., 2012; Tse, 2012; Woodie, 2007).

As can be seen, the role of the DSS is not limited to providing a support service to help disabled students in academia; they also help support students socialise at university, which also helps disabled students to achieve in their HE goal.

2.2.4 Accessing the services of the DSS centre in HE

Disabled students need to work with the DSS centre in order to gain access to its support services. There is an important process by which to apply to the centre. The students are invited to register and disclose their disability with the DSS centre.

2.2.4.1 Registering for the services of the DSS centre

The registering process for the services enables students to access and receive services from the DSS centre. Registering will help the centre obtain information about the disabled students and provide appropriate services. Registering may not be mandatory; however, universities recommend that disabled students register as this would help them to access the support services offered by the centre (University of Huddersfield, 2017; University of Mary, 2017; University of Toronto, 2015). The registering process includes a number of activities: for example, disclosing personal information, providing evidence of a disability, and making an appointment to discuss the services (University of Notre Dame, 2017). On a personal information form, students have an opportunity to state what disability they are registering and what support they need from the centre. Moreover, submitting documents providing evidence about a student's disability relating to the disclosure of the disability is also considered to provide information about their disability to the DSS centre and to enable the centre to consider appropriate services for the students (University of Huddersfield, 2017).

The disclosure of a disability by disabled students needs to be presented by identifying the disability on a form completed by a qualified professional; for example, medical evidence may have to be shown to the DSS centre. The diagnostic data helps to connect the disability and provision of services, and information provided by professionals could explain a disabled student's condition and their needs. The last part of the process of registering with the DSS centre could be the disabled students making appointments at the centre (University of Toronto, 2015). This aim of this stage of the meeting is to discuss the accommodation that will be put into place; the benefits of this stage are that this will help each party to understand each other's responsibility and appropriate support services for the students can be arranged. However, the issue of disclosing a disability may impact on disabled students in various ways in HE learning and so this will be discussed in the next section.

2.2.4.2 Impact the disclosure of a disability has on disabled students

As stated above, in order to qualify for services, a student needs to provide the DSS centre with evidence of their disability, which will identify the disability and help staff at the centre to understand the limitations that this disability poses for the student. Asking a student to disclose a disability seems to be common in the application process, as the disclosure of a disability will help the DSS centre to explore what is appropriate for the student. The design of the section relating to this seems to be for the convenience of the university so that it can categorise students and share information with other departments, such as the DSS centre, the faculty and the tutor (Matthews, 2009). Wolanin and Steele (2004) point out that the disclosure of a disability is important with respect to receiving services from the DSS centre as it seems to be an initiative in requesting support services. The centre will use a disabled student's profile to provide appropriate services (Open University, 2015; Waterfield & West, 2011).

Although the information provided in disclosing a disability is important for providing services and the DSS centre seems to encourage disabled students to disclose their disability, some disabled students refuse to disclose their disability as they believe it will disadvantage them (Hall & Tinklin, 1998). Several studies have

investigated the factors associated with the disclosure of a disability, and how disabled students have a negative attitude and are reluctant to disclose their disability as they are concerned about stigmatisation (Bolt, Decker, Lloyd & Morlock, 2011; Gilson & Dymond, 2011; Lightner et al., 2012; Stein, 2013). This problem has an impact on the studying and socialisation of disabled students. An example of this situation could be that a tutor or peer may have misconceptions or negative attitudes about a disability and whether the student is capable of studying. This has a negative effect on their participation in the classroom and academic performance.

Moreover, Boone (2015), Gilson and Dymond (2011) and Timmerman and Mulvihill (2015) point out that many students with disabilities, especially those with non-visible disabling conditions, such as learning disabilities and mental health issues, also hide their disability and are uncomfortable about disclosing it. Therefore, these disabled students appear to request support less than students with visible disabilities, such as visually impaired students and physically disabled students. Although disclosure of a disability at the application stage appears to have benefits for HE institutions in that they can provide appropriate support for disabled students, the institutions cannot require disabled students to disclose their disability as the disclosure relates to human rights. Therefore, the students have a right to decide whether they disclose or refuse to disclose, and can additionally select an appropriate time to disclose their adjustment (Prince, 2015). However, in their study Lightner et al. (2012) suggest that disclosing a disability early on is related to better access to support from the DSS, which benefits the academic support for disabled students, as opposed to students who delay the disclosure. This assertion is empirically supported by Hudson (2013), who indicates that disabled students who delay disclosing their disability risk not being able to graduate compared to students who disclose their disability at an early stage. This is because early disclosure of a disability could provide benefits in terms of learning support for disabled students before they encounter difficult situations.

In short, while disclosing a disability has the advantage for disabled students that they can be given accommodation by the DSS centre, the disclosure may also

have a negative impact on disabled students. Thus, the students need to consider the pros and cons of disclosing their disability and make decisions about whether they disclose or not.

2.2.5 Types of services provided by DSS centre

The services provided by the DSS centre to disabled students could impact on the success of the students in their academic studies and in their lives in HE; therefore, HE institutions offer a variety of services in order to respond to the needs of disabled students (Adams & Proctor, 2010). Some of the services provided by the DSS centre are described below.

1) Induction, registration and enrolment services

Tinto and Goodsell (1994), Hadley (2007) and Hopkins (2011) state that the new students' orientation is an important component for supporting students' entry into the university as they will settle into learning and connect with each other at university. Therefore, providing services for new disabled students appears to be the major component for them as they may need guidance for selecting appropriate situations (Hadley, 2007). Moreover, providing induction, registration and enrolment services to disabled students helps them to build confidence and social networks, which is an important part of learning in HE. In Thailand, the DSS centre provides induction, registration and enrolment services to new students, especially the orientation programme (Disability Support Services Centre University of Phayao, 2015; Disability Support Services Sukhothai Thammathirat Open University, 2015; Sujirakul, 2009; Tieammanee, 2009).

2) Accommodation services

Accommodation services are the support services for disabled students in the residential area which include housing disabled students in university accommodation and private accommodation. The accommodation includes residences in various forms. Accommodation services for disabled students aim to provide suitable residences for the students with regard to living and travelling to the university without or with fewer obstacles, as these obstacles may affect the

learning of the students. On the international level, the US provides accommodation services for disabled students and the UK has a policy of integrating disabled students into the university community, which is extended into the residential provision, assisting students in finding their strengths, and advocating for student resources (University of Hull, 2004; University of Wisconsin, 2013). Consequently, the DSS centres need to help in finding appropriate accommodation for disabled students. Moreover, the accommodation services need to provide information about suitable accommodation for these students.

3) Assistive technology services

Assistive technology is defined as a technology or application in the format of hardware or software that is specifically developed to assist individuals with disabilities in overcoming barriers (Ari & Fethi, 2010). Seok (2010) points out that assistive technology plays an important role in many areas as it provides creative solutions that enable individuals with disabilities to be more independent, productive and integrated into the mainstream of society and community life. Therefore, assistive technology services are provided in HE in order to help disabled students with their academic studies and socialisation. Assistive technology services in HE can include providing assistive technology to support students' disabilities, such as providing wheelchairs, white canes and hearing aids, in addition to providing assistive technology for learning, such as information technology equipment, which includes hardware and software.

4) Accessibility information services

Madden (2000) suggests that accessibility to information services could be presented in various formats. For example, traditionally, information was provided as printed material. However, more recently, non-printed material such as audio, video and information sources on the internet have become available. Oltmann (2009) pointed out that disabled people have rights regarding freedom of access to information, thus access to information is important to disabled students, as they need to receive information about learning and daily life. Moreover, information for disabled students can be provided in worksheets, text books and communication

with people, such as classmates and teachers, and news of universities. This information is important for the students' learning in class and socialisation in the university. Therefore, using the concept of accessibility to support the access to information of disabled students can help them to meet their information needs, as this concept means providing flexible accommodation for the needs and preference of each student (Valdes, 2004).

The DSS could provide services to help disabled students to access information by cooperating with another department, such as the library, lectures for guiding providing appropriate services for disabled students, as the DSS centre may not have direct responsibility for providing all of the services. Examples of accessibility information services include supporting access to library services that relate to giving information to disabled students about how to access the library and receive services, such as giving information to physically disabled students about wheelchair access (Yale University, 2016). Moreover, cooperating with lecturers to request documents in alternative formats, such as Braille, large print or printed on coloured paper, for disabled students is the responsibility of the DSS centre. The DSS centre could also request .doc text files from lecturers for the students that they can use with special software (University of Edinburgh, 2015).

5) Training skills services (e.g. academic training skills, social training skills)

The training skills services include academic and social skills training which is provided by the DSS centre through cooperation between this centre and other departments in the university. The DSS centre has a responsibility to help disabled students to participate in each training activity. The support from the DSS centre can include various types of service, such as creating training skills courses and providing assistants to help disabled students to participate in the university's activities. Previous research studies (Grigal et al., 2013; Tse, 2012; Woodie, 2007) indicate that social skills training leads to improved confidence, self-determination, self-esteem and behaviour of disabled students. These skills seem to be an important part of success in academic studies, social relationships and adjustment to university life; however, some disabled students may lack social skills and encounter difficult situations (Almog, 2011). Therefore, the provision of social skills

training or activities services tends to support the development of several dimensions of the students (learning and life) at university (Collins & Mowbray, 2005; Hall & Tinklin, 1998; Tinto & Goodsell, 1994).

6) Health and well-being services

The health and well-being services from DSS centres include a variety of confidential support, such as providing information about access to services related to medical care, health centres (University of Cumbria, 2017) and rehabilitation information, and taking disabled students to the health centre and the well-being centre (Tieammanee, 2009). Tieammanee (2009) states that disabled students need to receive health services, as good health appears to be an important factor that supports the learning of the students and relates to the quality of life of the students in university.

7) Transportation services

The transport services provided help disabled students in various ways, for example, providing cars or buses and disabled parking services. Rapipong and Kovindha (2015) point out that although Thailand has a law about providing parking for disabled people, it appears that awareness of this law is not widespread and people in society do not seem to understand the need to provide accessible facilities for people with disabilities, such as ramps, toilets and disabled parking services. Therefore, while Thai universities may build disability parking to comply with the law, it seems that disabled students do not use these facilities frequently. Instead, they may use other means of transport, such as buses and mini buses which are provided by the university and managed for the disabled students by the DSS centre. Tieammanee (2009) who studied the provision of educational welfare for disabled students in University 'A' in Thailand; the research found that most students use the buses and car services in campus as it is more convenient and free. Additionally, Hadjidakou et al (2010) studied the accessibility for physically impaired students in HE in Cyprus, and found that although most of the students use the taxi as the university supports the cost, transportation by bus appears to be the favourite mode of transportation used by the students.

8) Assistant services (e.g. staff, peer, volunteer)

Assisting students by providing formal support from the DSS centre is considered important (Thompson & Mazer, 2009) as it could help disabled students in their academic and social life in university. The assistant services provided by the centre includes various professionals, such as teachers, sign language interpreters, physical therapists, and counsellors. It is possible that these specialists' backgrounds could provide different knowledge and understanding of support services for disabled students. Furthermore, some assistant services are provided by people other than the DSS centre staff, as can be seen in the buddy system, where the support is provided by volunteers and classmates of disabled students.

Some DSS centres may lack staff, however, and therefore the alternative services for disabled students are informal services. Guralnick (2004), Llewellyn et al. (2003) and Thompson and Mazer (2009) state that these services come from the relationship between the students and other people, such as friends, family, teachers, and the faculty. This support method may be created by the students and the DSS centre, and the centre and disabled peers, but it is based on determining the students' and the centres' need for suitable services on a case-by-case basis (San Diego Community College District, 2016). The informal services may be assisting the students temporarily and the centre may provide formal services for the students when it has appropriate services, for example, when the centre has a budget for increasing the number of staff.

9) Examination support services

Examination support services are based on helping disabled students to access examinations; therefore, these services consider the different needs of each disabled student (University of Dublin, 2017). Baker (2013) explains that examination support could be, for example, extra time in examinations or special versions of question papers, such as large print and different fonts and sizes and a Braille version (University of Liverpool, 2017). Moreover, providing assistive technology such as computers and other equipment could help disabled students who have a problem with their handwriting (University of Liverpool, 2017).

10) Job counselling services

Dhillon, McGowan and Wang (2006) explain that support services related to careers for students in HE includes career counselling, searching for jobs, and assistance with job placements. Furthermore, support in this area could be provided in workshops and seminars, workplace learning programmes and through the development of wider employability skills (University of Kent, 2013); these activities could help disabled students to make the transition from education to employment. Moreover, a study on the development model of HE delivery for disabled students in Thailand conducted by Pengpae (2010) found that the organisations in Thailand appear to have a negative view about disabled people, and disabled students are unable to undertake internships and/or work. As a result, many organisations do not employ disabled people.

Moreover, the organisations do not seem to want to cooperate with DSS centres in helping disabled students to gain employment as the employers need to check the ability of disabled students, for example, whether disabled students are able to lead an independent and self-reliant life without overdependence on other people's help that will not impact on working with organisations. Regarding this situation, Pengpae (2010) suggests that DSS centres need to improve disabled students' skills for employment and offer information to organisations regarding the ability of the students. Moreover, a study conducted by Wongkom (2012), which focused on finding jobs for hearing-impaired graduate students in Thailand found that a connection between parts of the university and outside the university, such as the connection between the faculty and companies, could increase support for disabled students in many ways. For example, disabled students could have more internship opportunities, as can be seen by the increasing numbers of companies employing disabled students after they graduate from university, and continuing their employment after the internship period.

In summary, it can be seen that DSS centres provide a variety of services to support disabled students in HE. Each DSS centre may offer different services, however, depending on the policy of the centre, the specialists, and financial support from the university (Pengpae, 2010; Udompiriyasak, 2010). In this study,

the questionnaire and the questions for the interviews relate to these services, and the details can be seen in chapter 3.

2.2.6 Services for disabled students in HE

With regard to accessing the services of the DSS in HE, three topics in particular were helpful for disabled students: accessing the services of the DSS centre before entering university, during the application process, and after entering university.

2.2.6.1 Accessing the services of the DSS centre before entering in HE

The services for students before entering HE refers to activities for disabled students before they start studying in HE (Hall & Tinklin, 1998). Connor (2012) points out that support for disabled students in this stage helps them to understand their new status in the new environment that is different from their time in secondary school. The support relates to access to a variety of information, such as information about universities, courses, referrals, student advocacy and counselling geared to facilitate integration into institutions for disabled students (Hadley, 2007; Kundu et al., 2003). Therefore, it is considered important for the HE institutions to inform disabled students via several methods, such as leaflets, a hard copy of the application process guide book, the website, and social networks. Searching for the information in these media will help disabled students to gain an insight into the university (Lefever & Currant, 2010).

Moreover, universities need to prepare activities to meet the needs of disabled students before they enter HE. An example of the support in this stage can be found in the orientation programme, which invites the student and their family to explore the university, academic support and other services (Ntombela & Soobrayen, 2013). Furthermore, this programme offers disabled students an opportunity to meet the DSS centre team, and the students can find out about the services that will be provided by the centre when they start studying at the university. Hall and Tinklin (1998), who conducted a study on the experiences of disabled students in HE, point out that such a university visit prior to entry to HE assists in providing appropriate support for new students who may need special

support. This is due to the fact that some processes may take time, for example, to request services from the DSS centre, disabled students may need to prove their disability via medical evidence. In addition, as discussed above, in some cases, disabled students may be concerned about the disclosure of their disability as they may believe that they will be disadvantaged in some way, and they choose not to disclose their disability. In this sense, the DSS centre needs to provide information about the possible accommodations and the rights of disabled students to receive these accommodations (Connor, 2012).

Another service mentioned in the literature that universities could provide to disabled students before they enter HE is a transition programme. Lightner et al. (2012) and Test, Bartholomew and Bethune (2015) define a transition programme as a comprehensive set of instructions and services designed to help disabled students gain self-advocacy and self-monitoring skills that they may need in learning in HE. This is due to the fact that during this period, disabled students may encounter difficult situations in a new and unfamiliar environment, a stage that can bring with it much confusion and uncertainty (Bailey et al., 2002; Connor, 2012). A transition programme allows students to identify any unexpected situations and barriers, attendance services from residence to university, classrooms, and other academic resources.

Transition services are considered important to support the students in moving from the old situation, such as secondary school, to learning in HE (Hurewitz & Berger, 2008; Test, Bartholomew & Bethune, 2015) via several activities, for example, transition of individual disabled student information from secondary school to university, providing information about the university or courses and accommodation, visiting the university, and training skills. These activities are important to explore appropriate services for supporting disabled students; thus, after entering HE, the students can obtain services from the centre as soon as possible (Waterfield & West, 2011).

The provision of transition services may only be used in some countries that have a strong policy with regard to providing support for the education of disabled students (Corner, 2012; Test et al., 2009), such as in Western countries.

Furthermore, the practice of providing a transition programme may encounter problems in connecting the family of disabled students, the secondary school, the university and the DSS centre. Moreover, each of these may not have the capability to support the transition programme, for example, the school may lack professionals who can provide a transition programme at the secondary school level and send important information about disabled students to the university. In the same way, if the HE institutions lack a DSS centre and do not provide a transition programme, this could lead to the failure of the transition services.

It can be seen that preparing students before they start learning in the HE stage tends to be useful for students (Fitzgibbon & Prior, 2006; Woosley, 2003).

Therefore, HE institutions need to prepare support for the students in this stage. Disabled students may require specific services; therefore, awareness of the provision of appropriate support services in this stage needs to be taken into consideration.

2.2.6.2 Accessing the services of the DSS centre during the application process

Accessing the services of DSS centres during the application process is important for disabled students, as it appears to be the start of the connection between the students and the university (Hongngam, 2014). If they did not have transition services at their secondary school, the services provided by the university would be the first services they receive (Woosley, 2003). Hopkins (2011) states that disabled students need services during the application stage as this stage may include information about finding a course and selecting a university, applying, and the whole application process. Moreover, the services during the application process relate to building a relationship between disabled students and the DSS centre, which is the department that supports learning in the university (Hopkins, 2011). In addition to application information, it is argued, disabled students need to find out about the other services from the DSS centre when they enter their first year at university, such as accessing the course (Hadley, 2007).

In short, the provision of services for disabled students during the application process appears to help the students to access information about the stages of the admission process.

2.2.6.3 Accessing the services of the DSS centre after entering university.

Accessing the services for disabled students in the DSS centre after entering university includes several stages. Thompson and Mazer (2009) state that disabled students require more academic support in university than in previous levels of education. Moreover, Hadley (2007) states that in the first year at university, disabled students have to begin the process of responsibility of them on self-advocate and development in learning, and Connor (2012) points out that providing services for the new disabled students at university helps them to begin their new life on campus. Moreover, the new students may need time to improve their skills in order to interact with people at the university (Gilson & Dymond, 2012), preparedness and integration of students into university life (Fitzgibbon & Prior, 2006; Woosley, 2003). Therefore, the DSS centre needs to provide services to support disabled students when they enter university and needs to help them acclimatise to university learning. Furthermore, Gilson and Dymond (2012) state that the students need to receive the necessary learning support as early as possible from the DSS centre as these students must also face the challenges of the required transitions, as well as other complex situations. The university and the DSS centre can provide support to first-year disabled students via several services, such as activities for the first week; induction, registration and enrolment services; the orientation programme; accommodation services, assistive technology; transport services; and well-being services (Hadley, 2007; Hopkins, 2011; Tinto & Goodsell, 1994; Woosley, 2003). The details of these services will be presented in the section on types of services from the DSS centre.

Services for disabled students after the first year change from those in the first year as this is a time to consider their new objectives, such as focusing on their interests and choosing a major (Panganiban, 2016). Moreover, Noel-Levitz (2013) found that, after the first year, some students were still searching for purpose and

meaning in the selection of a major, new friendships, a career of interest, and financial solutions for their educational and living expenses and debt. Furthermore, after the first year, disabled students appear to need support with social activities, as these are crucial for university life (Collins & Mowbray, 2005; Hall & Tinklin, 1998; Tinto & Goodsell, 1994). Moreover, services for disabled students in the final year of study relate to support services for internships and transition to employment.

The providing of services for disabled students at the beginning of their studies appear to prepare the students for the new environment at university that differs from the environment at secondary school. Therefore, the DSS centre needs to provide support services for disabled students early as this is likely to benefit the students, for example, receiving support from the DSS centre can increase their grade (Hudson, 2013).

2.3 Overview of Thailand

Thailand is a country located in Southeast Asia and is divided into four different geographical regions: north, northeast, central, and south. These regions are administratively divided into 76 provinces and Bangkok is its capital. The population has been increasing rapidly – a study of the Bangkok Metropolitan Administration found that the population in 2014 was over 65 million and the total number of people registered as having disabilities in Thailand was 1.567 million, or around 2.41% of the total population (Administrative Strategy Division of the Bangkok Metropolitan Administration, 2014; Inthusut, 2016). A large majority of people in Thailand are Buddhist, which has an influence on their lives and the provision of education in Thailand.

2.3.1 Education system in Thailand

The Thai education system was originally based on Buddhism and was later influenced by western education systems. In the 1800, education was provided to members of the royal families by the Royal Institution of Instruction and Buddhist monks received education in temples (Carter, 2006). Thus, Thai education at this

time seems to have been limited in terms of the groups of learners involved and was not provided for the general population. However, changes in the provision of education took place in 1868-1910 which were influenced by the British education system (Hill & Sukbunpant, 2013). Later, the Thai education system continued to made education more available to the general public in the form of schools (Carter, 2006).

In 1887, the Department of Education was established in order to manage the Thai education system and provide education to people in Thailand. Five years later, this department was renamed and upgraded as the Ministry of Education (MOE), which is responsible for providing public education for Thai people. The first Education Plan was promulgated and education was expanded to other provinces in the countryside in 1898, additionally, the education system was divided into three levels: primary, secondary, and HE (Sangnapaboworn, 2007).

The MOE provides education for Thai people via three main organisations. Firstly, the Office of the Basic Education Commission (OBEC) is responsible for providing education at two levels: primary and secondary schools (Ratanasakorn,2009). These form the 12-year basic education system and no tuition fees are charged for the Thai people (Council Office of the Education, 2015). Secondly, another education level in Thailand is upper school, which includes vocational education and HE (Ministry of Education,1999). Vocational education is overseen by the Office of the Vocational Education Commission (OVEC), which produces and develops professional workers in various fields. In addition, HE is governed by the Office of the Higher Education Commission (OHEC), which is responsible for educational and planning for HE institutions at both undergraduate and postgraduate levels.

Thailand's government provides HE through its 156 HE institutions and uses the admission process for selecting students to study in HE (Office of the Higher Education Commission, 2015). There are 81 public universities, including autonomous universities, traditional universities, Rajabhat Universities, Rajamangala Universities of Technology and 75 private HE institutions (Office of the Higher Education Commission, 2015). Autonomous universities are universities

that have their own flexible operations, such as their own administrative structure and budgeting system for self-governance and full autonomy. Autonomous universities were established in Thailand as the Thai public universities under the bureaucracy of the MOE appear to be inflexible, so the autonomous universities tend to have an alternative administrative structure (Rungfamai, 2008). The traditional universities are different from the autonomous universities as they are organised according to the policy of the MOE and receive their budget directly from the government. The Rajabhat Universities were formerly called Rajabhat Institutes and originally emerged as colleges of education. They were designed to provide HE to regional provinces in Thailand. As the Rajabhat Universities were originally colleges of education, the special education teaching programme was established in these universities in order to support the learning of disabled students who have increased needs regarding their participation in the educational system in Thailand. The Rajamangala Universities of Technology were upgraded to university status and were previously Rajamangala Institutes of Technology. These universities focus on the development of graduates in science and technology (Office of the Higher Education Commission, 2017).

Most of the universities in Thailand require students to pass an entrance examination for admission; these universities are called 'non-open universities'. Two open universities, Ramkhamhaeng University (RU) and Sukhothai Thammathirat Open University (STOU) do not have this requirement, however. RU is the first open university in Thailand which provides both on- and off-campus studies via distance learning and traditional classroom learning. STOU is Thailand's major open learning institution that provides education based on distance learning (Murphy & Yuen, 1998). Both of the open universities receive disabled students to study in their universities and provide support services for the students via DSS centres. STOU provides education for disabled students by studying the needs of these students for DSS. Torkeaw (2017) and Sujirakul (2009) state that RU has been providing education for disabled students via the DSS centre since 2014 to help the students to achieve their academic goal.

Thai universities include three main degree programmes: bachelor's degree, master's degree, and doctoral degree (Nuffic, 2015). The duration of the bachelor's degree is usually four years for architecture and five years for pharmacy, while basic training in medicine, dentistry and veterinary medicine requires six years of study. Following a bachelor's degree, however, it is possible to gain a graduate diploma with one year of further study. Master's degree programmes usually involve two years of further study, and a doctoral degree requires between two and five additional years of study.

In 2011, Thailand's total population stood at 65 million, of which over 14 million students were enrolled at institutions in Thailand (Bangkok Metropolitan Administration Bangkok City, 2014). In addition, in 2015 it was reported that disabled students made up 0.12% of all students in HE (2,854 out of 2,355,070) (Ministry of Education Operation Centre, 2015). This appears to be at a lower rate than the enrolment of non-disabled students; however, over the past decades, research revealed that the number of disabled students enrolling in HE has increased at the undergraduate and postgraduate level (The Office of the Higher Education Commission, 2011; Ministry of Education Operation Centre, 2015).

Moreover, there are 156 HE institutions in Thailand and 31 have a DSS centre for supporting disabled students (The Office of the Higher Education Commission, 2012). The number of DSS centres in the Rajabhat universities appears to be more than other HE institutions as these universities were the first group of universities in Thailand that included courses on special education which they have been running since the 1960s (Kajorndham, 2010). Therefore, the Rajabhat universities seem to have more experience with disabled students than other HE institutions, as a result of which, the Rajabhat universities have received disabled students to study there before other HE institutions (Kajorndham, 2010).

2.3.2 Education for student with disabilities in Thailand

The situation of disabled Thai students in the 1930s seems to have affected by Buddhist beliefs that they are limited in participation in society and the education system. This is because Buddhists believe that the current life of a person is

related to their actions in a previous life (Yotanyamaneewong, 2012; Kanchanachitra, 2014). This can be explained as follows. If a person may have done something wrong in their previous life, they may be affected in their current life in various ways, such as that they may be poor, have disabilities, or have a disabled person in the family. These situations are considered to be negative, especially in relation to disabilities (Henderson & Bryan, 2004). The perspective of people with disabilities in Thailand is that they need to receive charity from the government. Therefore, Thai children with disabilities were kept at home and denied an education. The MOE promulgated the Compulsory Education Acts in 1935 which provided that children with disabilities cannot attend school (Sukbunpant, Shiraishi & Kuroda, 2004). This closed off opportunities for disabled children to receive an education at that time.

However, an awareness of the need for education for disabled students became prevalent in the late 1930s. Visually impaired students were the first group to receive an education from American and Thai educators and the Foundation for the Blind in Thailand (FBT) and the School for the Blind were established for supporting the education of visually impaired students (Kajorndham, 2010). Thereafter, such schools were established in all regions of Thailand. In addition, the FBT has been the main organisation that has supported the integration of visually impaired students into the general classroom with non-disabled students at a secondary school level (Kosuwon, Viriyangkura & Swerdlik, 2014). In present, support from the FBT covered students at all education levels and there are more and more agencies being established for supporting visually impaired students. In 1954, education for hearing impaired students was established in the first school for the Deaf in Thailand (Chinnawong & Chinnatangkul, 2013). Six years later, education for students with intellectual disabilities was established in the hospital for the Mentally Retarded. In the same year, education for physically disabled students was founded with the support of the Royal family of Thai (Kosuwon, Viriyangkura & Swerdlik, 2014).

The National Education Act 1999 enacted by the Thai government focuses on the rights of people with disabilities to education aligned with their rights under

the constitution. Under this Act, people with disabilities can have 12 years of free basic education (primary and secondary school). The Thai government also designated 1999 as the 'Year of Education for People with Disabilities', and there have been widespread educational opportunities for disabled people in Thailand (Kachondham, 2010). Moreover, the Bureau of Special Education Administration and the Office of the Basic Education Commission categorised nine different disability categories for providing support services in the education system in Thailand, which include: 1) visual impairments, 2) hearing impairments, 3) intellectual disabilities, 4) physical disabilities and health impairments, 5) learning disabilities, 6) language and communication disorder, 7) behavior disorders, 8) autism and, 9) multiple disabilities.

They receive support from educational institutions and educational systems, such as facilities, assistive technology and educational aids. These services for disabled students have been increased in the academic institutions and the Thai government has promoted and implemented policies to increase awareness about the services available for students with disabilities. Moreover, educational institutions are required to accept disabled people on their courses, and provide appropriate education for them and this has been an important step for Thailand's higher educational institutions (Sri-on, 2006).

2.3.3 Education provision in HE for disabled students in Thailand

The provision of the support services for disabled students in HE in Thailand began with the support of some disability foundations, which supported the learning of disabled students with specific types of disability in HE. These services were set up with help from private funding, including organisations related to blind students, such as the Christian Foundation of the Blind and the Association of the Blind (Sirirungruang & Ratanasakorn, 2010). The Foundation offered support to many blind students in universities since they had also been supported in schools and the support was continued throughout their study in university. This provision of support for blind disabled students by organizations for the blind also helped to establish wider support services within the universities. Disabled Thai students have attended HE establishments since the 1960s; however, the Thai government

began to support disabled students in HE in the 1990s, notably in 2003 via the establishment of DSS Centres (Sri-on, 2006). In this sense, it seems to have taken a considerable time to raise awareness about providing education and services in order to support the learning of disabled students in HE in Thailand. This is a situation that may have been caused by the work of the Office of the Higher Education Commission (OHEC), which is the main organisation responsible for overseeing education for disabled students in HE in Thailand. It means that this organisation may have a lack of understanding on supporting disabled students in HE. Warnset (2008) explained that the provision of support for disabled students in HE from DSS began after the implementation of the Thai education law in 1990. After that the government passed the National Education Act, which made provisions for educational opportunities for the disabled students, such as receiving disabled people to study in secondary schools and universities. Moreover, in 2003, the OHEC organized the first workshop on disability policy in HE institutions; the workshop resulted in agreement to establish the DSS system in some universities (Kachondham, 2010).

Furthermore, the OHEC made education policy to support disabled students in HE institutions, such as a quota system for disabled students entering university. This system related to supporting disabled students and universities if HE institutions had more than ten disabled students, which impacted on the institutions as they could establish a DSS centre to support disabled students (Songcharoen & Nongthong, 2010). There were therefore many universities that established DSS centres in their universities in all regions of Thailand after the introduction of the OHEC policy to support disabled students in HE establishments, such as the DSS centre in the University of Phayao, Thammasat University and Sakon Nakhon Rajabhat University (Disability Support Services Centre University of Phayao, 2015), Disability Support Services Centre Sakon Nakhon Rajabhat University, 2015 (Tieammanee, 2009). Additionally, the OHEC has supported disabled students in various ways, such as giving a budget to DSS centres to provide TSL interpreters in class and a budget to adapt and make more accessible the physical environment in universities, for example, building ramps and toilets for students who are physically disabled.

While there have been signs of progress in terms of developing DSS centres for students with disabilities, as described above, there are still gaps between policy and practice. Tieammanee (2009) states that DSS in Thailand seems to be a relatively new issue and that the operation of services seems to lack guidance from clear policies from the MOE, the OHEC and HE institutions. Furthermore, Sujirakul (2009) points out that there is a shortage of staff and facilities for providing services for disabled students, such as a lack of interpreters for TSL and a lack of technicians for modifying materials for disabled students. These situations appear to be affecting the provision of appropriate services for disabled students (Daengsuwan, Boonyaphithak & Kemkunasai, 2012).

Autayota (2015) stated that although Thai universities were required to take action under the policy of the MOE with regard to receiving disabled students, each university has its own policy about the provision of support services for disabled students. For example, universities can use the quota system for disabled students entering university and design their own criteria for selecting disabled students, such as limiting the number of students in each year according to the ability of the university to provide the relevant level of support services (Suranaree University of Technology, 2016). For example, University A may receive 30 disabled students every year as the university has a DSS centre to support the students and the centre has enough services for the students, such as sufficient staff, specialist, assistive technology and connections with disabled people's associations. These situations mean University A could receive more disabled students. On the other hand, some universities can receive fewer disabled students as they are not able to support the students through the implementation of the required services, as they may have issues such as lacking trained staff, specialist and assistive technology. Therefore, some universities need to limit the numbers of disabled students studying at their university.

Moreover, there was insufficient use of the transition programme to support disabled students in university, therefore students needed to do everything by themselves when connecting from secondary school to HE (Autayota, 2015). As a result, disabled students faced difficult situations when entering the HE level, such

as choosing a university, applying to university and accessing services of a DSS centre. A study on Administrative of Transition for the Secondary Education Students with Disabilities in Thailand conducted by Hongngam (2014) found that transition programmes for disabled students are important to support the learning of these students. These students allow schools to transfer the data in their Individual Educational Plan (IEP) to a college or university. The information in the IEP includes details that have been added since the disabled students started to study in school, the conditions of their disability, and the support services provided by the school. Therefore, this information could help in designing support in the next stage for disabled students, such as support for such students moving from secondary school to university and from university to an employer. Although transition services appeared to be useful in supporting disabled students, Hongngam (2014) and Autayota (2015) point out that awareness of transition services did not appear to be widespread in the provision of support services for disabled students transitioning from secondary school to university in Thailand. This is because the transition services are new and need time and more publicly available information about implementation, additionally, support from the government is also important as the transition services need to work with several organisations (Autayota, 2015).

To sum up, disabled Thai students have studied at HE level since the 1960s, while the initiation of support services for disabled students in HE in Thailand came through the auspices of some disability foundations. The government has increased its role to support disabled students via DSS centres and implemented various policies, as a result of which there has been an increase of disabled students studying at HE level. However, providing support services for disabled students at this level has been subject to various complex challenges.

2.3.4 Related research to DSS in HE in Thailand

This chapter has reviewed the literature that relates to the main topics in this thesis, which includes an overview of DSS in the international context and in the context of Thailand. The first section of this chapter focused on DSS in HE to provide an overview of DSS in HE in the international context. The second section

focused on the connection between disabled students and DSS in HE in Thailand. This section identifies and examines previous research in the Thai context relating to this study and explains how such research was used to help design this study's research questions and methodology. Research studies about DSS in HE in Thailand can be divided into two groups: those that focus on the provision of services for disabled students and those that focus on the use of DSS by disabled students in HE.

Firstly, some research studies have focused on the provision of services for disabled students and have presented the views of providers, such as administrators and university staff; however, some disabled students also participated in these studies. In addition, although they used different research methods, it seems that the studies had similar aims, as they focused on finding models or systems to provide DSS for disabled students in HE. As can be seen, four of the studies suggested models, standards and/or frameworks for providing services for disabled students in HE (Autayota, 2015; Pengpae, 2010; Udompiriyasak, 2010; Yodkhampang, 2013). Although Songcharoen and Nongthong (2010) did not create a model for the provision of services for disabled students themselves, they applied a DSS model. This model was developed from an overseas field visit to universities in the US, to a pilot project in a college and presented the output of the pilot project and the feedback of disabled students and staff about the DSS. Therefore, it seems that previous research in the area of the provision of services for disabled student has attempted to explore the means for providing services for disabled students in HE. As using DSS for students in HE seems to be new for Thailand, and each university has a different policy and means of implementation for DSS, previous research has tended to present the results of studies as an example for other universities in setting up their DSS. A summary of the research studies about providing DSS for disabled students in HE in Thailand is indicated in table 2.1.

Table 2.1 Summary of research related to the provision of DSS for disabled students in HE in Thailand

Author/Date	Aim/Participants	Method	Result
Pengpae (2010)	<ul style="list-style-type: none"> - Focused on the development of policies, laws, and regulations related to the provision of education for students. - 25 interviewees from 3 universities (4 policy makers from OHEC, 2 members of the education committee, 6 senior university administrators, 3 university operational staff; 6 disabled students and 4 specialists in provision education for disabled students in HE in Thailand) 	<ul style="list-style-type: none"> - Documentary research method - In depth interview 	<ul style="list-style-type: none"> - There were problems regarding the policies, laws, and regulations for each university, which therefore impacts on the implementation of DSS in HE. For example, receiving disabled students to HE and lacking services for the students.
Songcharoen and Nongthong (2010)	<ul style="list-style-type: none"> - To develop the DSS of Ratchasuda College in order to have a distinct and systematic system; probably to be used as an example for other universities in setting up their DSS. - 9 participants (2 hearing impaired students, 2 visually impaired students, 3 staff of DSS centre, 2 	<ul style="list-style-type: none"> - Documentary research method - Overseas field visits to establish possible DSS - Questionnaire for disabled students - Interview for staff and lecturers 	<ul style="list-style-type: none"> - The initiated DSS consists of missions for the service provision of DSS, DSS committees for pointing to clear responsibilities, structures of the DSS centres, creating coordinators, and providing services for disabled students. - Participant in the study were satisfied with the service provision and outstanding performance of the staff in rendering services in the pilot

	lecturers)		project.
Udompiriyasak (2010)	<ul style="list-style-type: none"> - To study the current situation regarding the administration of DSS centres in HE and find appropriate models of DSS centres in HE. - University administrators and university operational staff 	<ul style="list-style-type: none"> - Documentary research - In-depth interview - Focus group 	<ul style="list-style-type: none"> - The administrators and university operational staff need to consider six standards for providing education for disabled students in HE. These standards comprise general management, academic, student activities, personal management, environment management, and assistive technology services.
Yodkhampang (2013)	<ul style="list-style-type: none"> - To explore components of an inclusive educational management model for disabled students in HE, to propose the inclusive education management model, and to examine the applicability of the model. - 96 participants (university presidents, vice-presidents, deans, deputy deans, head, deputy head of DSS centre, university lecturers and staff from various university office) 	<ul style="list-style-type: none"> - Interviewing - Questionnaire - Connoisseurship 	<ul style="list-style-type: none"> - Seven components and factors were proposed for the quality management model for the DSS centre: paying attention to disabled students, staff, tools and techniques in DSS, leading of administrators, benchmarking organisation, providing personnel with quality living, and continuing in management. - The inclusive education management model for disabled students in HE is applicable for future implementation.
Autayota (2015)	<ul style="list-style-type: none"> - To develop a model to support the organisation in providing support for the education of disabled students in 	<ul style="list-style-type: none"> - Action research 	<ul style="list-style-type: none"> - Creating a PACoS Model from the study. P: Policy – as defined in education for disabled students. A: Awareness – of positive attitudes and fundamental rights to education

	the university - 16 participants from a university in Thailand (6 disabled students, 3 lecturers, 4 representative administrators of DSS centre and 2 university administrators)		for disabled students. Co: Co-operation – collaboration of the organisation involved in supporting the education of the students. S: Support – educational support for the students in the study's sample university. - The university in the study does not have a policy for providing educational services for disabled students.
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Secondly, some previous research studies have focused on the views of disabled students in relation to the use of DSS in HE. These research studies relate to the use, needs, problems, and satisfaction for disabled students regarding support services at university (Phoommisittiporn, 2013; Sujirakul, 2009; Tieammanee, 2009). It seems that such studies also explore a way to provide services for disabled students in HE via the feedback from the disabled respondents regarding the DSS centre. Since, by determining positive feedback from respondents, such as their levels of satisfaction with the DSS, it is possible that the DSS centre is providing quality services for disabled students. For example, in a study by Sujirakul (2009) on disabled students in Ramkhamhaeng University, the students were satisfied with the DSS, which could mean that there is quality provision in this university that could provide an example for other universities in setting up their DSS. On the other hand, if the research determined that disabled respondents were not satisfied with the DSS centre, this could mean that the centre may have problems with providing services for disabled students, which may relate to the need to improve the DSS centre. A summary of the research studies about the use of DSS by disabled students in HE in Thailand is indicated in table 2.2.

Table 2.2 Summary of research related to the use of DSS by disabled students in HE in Thailand

Author/Title	Participants	Method
Sujirakul (2009) The Meeting of Basic Needs in Educational Programs for Physically Challenged Students at Ramkhamhaeng University	- 106 disabled students from Ramkhamhaeng University (48 visually impaired students, 55 physically impaired students and 3 hearing impaired students)	- Survey (questionnaire)
Tieammanee (2009) Methods of Improving the Providing of Educational Welfare for Disabled Students of Thammasat University at Rangsit Campus	- 63 disabled students from Thammasat University - 17 interviewees (3 administrators, 9 staff from the Christian Foundation for the Blind in Thailand (CFBT), volunteers and faculty staff, 6 representative disabled students)	- Survey (questionnaire) - In-depth interview
Phoommisittiporn (2013) A Study on Problems and Needs of Students with Disability in Pibulsongkram Rajabhat University.	- 40 disabled students in Pibulsongkram Rajabhat University, Thailand	- Quantitative - Survey - Questionnaire

Reviewing the two groups of previous research in Thailand presented in Tables 2.1 and 2.2 helps me to understand the whole picture of DSS for disabled students in HE in Thailand. As the findings from these previous studies not only present situations of DSS in Thailand, but they also have useful information that can be applied to this study, including the context of policies, laws, regulations related to DSS in HE, DSS services, and feedback from disabled respondent on DSS use. Moreover, the research methodologies of these previous studies are also helpful for the design methodology of this study.

Although these previous studies presented a variety of perspectives via several respondents, such as DSS and receivers, it seems that most research focused on providers more than disabled students, i.e. those who receive services from the

DSS. Moreover, reviewing the previous research enables identification of areas not addressed, such as awareness of DSS, conceptualisation about DSS, and the advantages and disadvantages of DSS from disabled students' perspectives. Therefore, in order to examine disabled students' perspectives about DSS in HE in Thailand, the aforementioned issues were chosen for study, leading to the development of the following research questions: How do disabled students in HE in Thailand conceptualize DSS? and What are the advantages and disadvantages of the DSS according to disabled students? Although there have been previous studies in Thailand about the experiences of disabled students regarding the use of DSS centres, as presented in Table 2.2, the present study also develops this issue in its third research question in order to discern disabled students' views on the issue of using DSS: What are the experiences of disabled students with regard to access and use of the DSS?; What are the experiences of disabled students with regard to access and use of the DSS?

For the third research question, as some previous research has studied the perspectives of disabled students regarding the DSS, such as using the DSS and satisfaction with DSS. I am aware of the importance of using the DSS for disabled students, as this may help to understand DSS use for them; additionally, students' use of the DSS also reflects their views on several dimensions, such as problems of use, satisfaction with services, and needs of the DSS. In order to obtain this data, I developed research questions in this study and applied a mixed method approach utilising an online survey and in-depth interviews. Using mixed methods may help to gain in-depth information from the perspectives of disabled students; although, as can be seen in Table 2.2, some previous research has used a mixed method approach, the population and sampling in this study were increased from previous studies in order to receive different information. Therefore, increasing the sample to include many DSS centres in every region in Thailand may gain more data, as opposed to previous research that has specifically studied only one university.

Although selecting 31 DSS centres in Thailand for this study may produce more data than previous research, it is difficult for me to go to 31 centres since, for example, I study in the UK and it would impose a high travel cost. Therefore, using an online survey questionnaire may help to address such limitations; however, using this method seems to be new for disabled students in Thailand, as previous research tended to use hard copy surveys for disabled respondents. However, reviewing the literature in the area of university education systems in Thailand demonstrated that most of Thailand's universities currently support using computers and the internet for learning. In addition, many studies found that Thai disabled students have increased their access to such technologies in order to support university learning (Pengpae's, 2010; Phoommisittiporn, 2013); thus, it would be possible to use an online survey for this study. In addition, using online surveys may not address the limitations mentioned above, but they could enable access to DSS centres in different parts of Thailand, meaning that this research could study many centres in different Thai universities. Therefore, the findings of this study will relate to several views, as opposed to previous research that mostly focused on universities in Bangkok and metropolitan areas. In addition, previous research seems to focus on large universities rather than medium-sized and small universities in other regions of Thailand; for example, in Table 2.2, three previous studies examined universities in Bangkok, while another appraised a large university in the north of Thailand. Therefore, this study attempts to fill the gap regarding the lack of information in the area of DSS services to disabled students from medium-sized and small universities in other regions of Thailand. Moreover, using online surveys could help to reach disabled students in open universities as the students in these universities do not attend classes, so it would be difficult to meet with them in order to administer hard copy questionnaires. Although it would be possible to send hard copy questionnaires to disabled respondents by post, replying would be difficult for them, which may impact on the study's response rate.

In summary, the aim of reviewing the literature in this section has been to examine previous research, in the Thai context, which relates to the present study and can be used for designing its research questions and methodology. In reviewing the literature in the context of Thailand, previous research seems to have focused on

examining the provision of services for disabled students more than exploring the views of disabled students in DSS. Data from the providers' perspectives has advantages for this study as it would help to understanding the larger picture regarding DSS in HE in Thailand. Moreover, previous studies on disabled students' viewpoints also help to understand the provision of services via the disabled students' experiences of using such services.

2.4 Conclusion

This chapter has reviewed the existing literature that relates to the main topics in this thesis. This literature review examined the theoretical background and identified a gap in the literature, which is useful for this thesis. Two themes in the literature were highlighted in this chapter. The first theme is the DSS at the international level that include the role of DSS in HE and the types of services that the DSS centres offer, and the theory, concepts and models used in the creation of DSS. The second is the DSS in Thailand that relate to the education system, which appears to be basic regarding the provision of education for disabled students, in particular, providing education at the HE level and DSS to support the learning of the students. The theory, models and information from the literature was used to design the framework for my study and helpful in interpreting the data collected and discussing the results of this research. In addition, reviewing previous research in the Thai context in this section has led to the design of the research questions and the methodology adopted for this study, which includes a mixed methods approach through the use of survey questionnaires and in-depth interviews. Although some previous research studies have used this same method, the present study is different in some important areas, e.g. changing the sampling for the group and using online surveys to access a larger number of respondents. Moreover, the use in-depth interviews in the second stage may help to gain rich data and find answers that were not uncovered in previous research studies.

Chapter Three

Methodology

3.1 Introduction

The purpose of this study was to explore the perspectives of disabled students on their experiences with the DSS in HE in Thailand. The research methodology adopted for this study is described, explained and justified in this chapter. The first section begins with the research questions and the second section justifies the selected research paradigm. The third section explains the research design and methodology, focusing on the mixed methods. The fourth section presents the justification for the research population and sampling. The fifth section explains the data collection in the first stage online survey, which includes sampling, survey construction, piloting questionnaire, implementation and data analysis. The sixth section explains the data collection process for the second stage in-depth interviews, including sampling, the interview schedule, implementation and data analysis of the interviewing. In the seventh section the ethical issues are also presented with the purpose of showing that the research was conducted in an ethical way. Finally, in section eight, the limitations of the study are presented.

The research questions are essential to the study. They influence the way in which research strategies were employed and subsequently how the data was collected, analysed and interpreted. As previously stated in the introduction, there are three main research questions, as follows:

- 1) How do disabled students in HE in Thailand conceptualize DSS?
- 2) What are the experiences of disabled students with regard to access and use DSS?
- 3) What are the advantages and disadvantages of DSS according to disabled students?

3. 2 Research paradigm

The three main paradigms of research methodology, positivism, interpretive and critical paradigms, are the different perspectives that have gradually developed in social science research and that underpin approaches to educational research (Bermejo-Berros, 2014; Gray, 2013). This research study adopted an interpretive paradigm because the aim of an interpretive research framework is to explore the deeper level of human activities (Antwi & Hamza, 2015). In addition, a human being is unique and every part of his or her life has its own meaning, intention and motivation (Goodsell, 2013). For example, in the case of disabled students, each student has a different type of disability, and may have different motivations for using DSS. Thus, it could be that the experiences of disabled students in using the DSS will provide different views. If the researcher wants to find out the perspectives of disabled students on their experiences with DSS in learning at university, then it seems suitable to use interpretive paradigm for understanding participants' different experiences and notions, as interpretive ontology views all reality as subjective.

3. 3 Research design and methodology

The research design is a comprehensive plan for data collection in an empirical research project. The design is focussed on each part of the research process, including the literature review, the design of the research questions, the selection of methods, the sampling, the development of instruments and the data collection (Harwell, 2011; Bhattacharjee, 2012). This research study uses the mixed methods approach, which uses a combination of methods when collecting, analysing and interpreting data. Using the mixed methods approach is considered to be a better option than using a single approach, as the latter option may not enable understanding of the research problems (Kolodziejczyk, 2015). Moreover, in a study on mixed methods design in disability and rehabilitation research studies, Kumar (2015) found that using the mixed methods approach in the area of special education is useful for resolving challenges in complex situations. He supports this finding by indicating that disability involves the interaction of a person with a wide range of complex factors in the environment (Kumar, 2015; 37). Therefore, as this

study is focused on the study of the disabled students concept within the DSS and the students' experiences of accessing and using the DSS, use of the mixed methods approach appears to be appropriate.

A quantitative approach was used in the first stage as this enabled the researcher to study the whole picture of the population of disabled students in the 31 universities, all of which had DSS centres providing support services to disabled students. However, the use of one method may not be enough to gain a deeper understanding of the multiple dimensions of students' perspectives on the use of a DSS centre. For example, using a quantitative approach may provide statistics about the use of DSS centres by various types of disabled students, but this approach may not gain a deeper understanding of the reasons why different types of students use the DSS centre. Therefore, the rationale for using mixed methods in this research was to explore and describe the perceptions of disabled students of the services in the DSS centres in two ways.

The first way involved using a quantitative approach via an online survey to collect data from respondents who were disabled students in the first stage, which would be helpful for gaining an overview of the situation regarding DSS in HE in Thailand. In this stage, a questionnaire was used in an online survey with respondents who could provide information on their awareness, use and perception of DSS. The second way involved using a qualitative approach to collect in-depth information to help to address the limitations in the quantitative stage by providing in-depth answers that examine in greater depth the behaviour, and emotions of four disabled students.

3. 4 Research population and sampling

The population is a group of persons with certain characteristics that are of interest to a researcher. In this study, the research population refers to students with disabilities in Thailand's HE, focusing on disabled students in universities which have support services for disabled students in the form of the DSS centres and/or Divisions of Student Affairs.

3.4.1 Sampling for stage 1 (Online survey)

The sampling method is an important step in the process of data collection (Coyne, 1997). The process focuses on a selection of some part of total population (Collins et al., 2007) because it is often impossible to study an entire population unless the number of the population is finite. However, as the process of sampling may not be an effective way to understand complex issues of human behaviour, the study of the whole population may address these problems (Marshall, 1996). Therefore, in this study the whole population was included in the first stage. This was possible because the population of disabled students in the 31 universities in Thailand that have a DSS centre is at any point in time, finite (The Office of the Higher Education Commission, 2012). The DSS Centres in Thailand and number of disabled student in their service as indicated in table 3.1.

Table 3.1 Disability Support Service Centres in Thailand and number of disabled student in their service

	University	Number of disabled students
1	Burapha University	105
2	Chaiyaphum Rajabhat University	15
3	Chiang Mai Rajabhat University	178
4	Chiang Mai University	32
5	Chiang Rai Rajabhat University	22
6	Kamphaeng Phet Rajabhat University	39
7	Kasetsart University	170
8	KhonKaen University	23
9	Lampang Rajabhat University	38
10	Maha Sarakham Rajabhat University	134
11	Mahasarakham University	11
12	Mahidol University	104
13	Nakhon Ratchasima Rajabhat University	134
14	Naresuan University	34
15	Phranakhon Rajabhat University	108
16	Pibulsongkram Rajabhat University	130
17	Rajamangala University of Technology Lanna	12
18	Rajamangala University of Technology Thanyaburi	13
19	Rambhaibarni Rajabhat University	72
20	Ramkhamhaeng University	95
21	Roi Et Rajabhat University	16
22	Sakon Nakhon Rajabhat University	55
23	Songkhla Rajabhat University	8
24	Srinakharinwirot University	8
25	Suan Dusit University	127
26	Sukhothai Thammathirat Open University	214
27	Surat Thani Rajabhat University	66
28	Thammasat University	70
29	Ubon Ratchathani University	2
30	University of Phayao	8
31	Yala Rajabhat University	7
	Total	2,050

Source: The Office of the Higher Education Commission (OHEC), 2012

3.5 Data collection

This section explains the procedure used for data collection in this study that began in stage 1 with an online survey and stage 2 with in-depth interviews. Both stages were designed in order to explore the following research objectives:

- 1) To examine disabled students' conceptualisations of disability support services.
- 2) To discern disabled students' views on accessing and using disability support services.
- 3) To discover disabled students' views on the advantages and disadvantages of disability support services.

3. 5.1 Stage 1 online survey

This study used an online survey for disabled students about DSS in HE in Thailand. The reasons for using this method were that surveys appear to be the primary and most popular method of quantitative data collection. Additionally, providing access to a survey via the internet is beneficial as it allows for data collection from a large sample population from different demographic area and, additionally, it saves the researcher costs and time (Andrews et al, 2007; Frickern & Schonlau, 2002; Weber & Bradley, 2006). These advantages relate to my situation, as I would have liked to conduct my study directly with the disabled students in Thailand. However, as I study in the UK, therefore, accessing these students via the internet helped me to save cost and time for collecting the data as I could not have accessed the students in all 31 DSS centres in whole regions of Thailand by any other means.

Furthermore, previous research has found that the students in Thailand's universities are increasingly using the internet (Vivartas & Sangkamanee, 2000; Prammanee & Moussa, 2010). Equally, the government is actively supporting Thai student Internet use for educational purposes, such as using the university's email for communication, registration and receiving university information (Sayananon,

2012; Sriwichai & Klaithip, 2012). It therefore appears that the internet has become an integral part of student learning in university in Thailand. Consequently, it is apparent that disabled students need to use the internet for learning in the same way as their non-disabled students peers do (Tubtimjaroon, 2014). Recent studies have confirmed that an increasing number of Thai disabled people are using the internet for supporting their life and learning in HE (Netayawijit et al., 2015; Pongsawat, 2015). This situation therefore confirms that using an online survey for disabled students was an ideal mode to use. Moreover, using the online survey seems to be more flexible for the disabled students, as they can access an online questionnaire anytime and in anyplace (Kennedy et al., 2008).

3.5.2 Survey construction

The questionnaire for stage 1 of this study was developed from a questionnaire presented in previous research into the DSS related to its provision of support for disabled students in HE. The intention was to design a clear questionnaire in each step based on a simple approach to understanding that would improve the participants' responses. Krosnick and Presser (2010) stated that participants' response to questionnaires involved four steps, interpreting the questionnaire, searching relevant information, investigating information for judgment and translating the judgment for responding to the questionnaire. Therefore, it appears that these steps may have an effect on the completeness of the response rate to the questionnaire when these four steps are used, and the questions are easy to understand and more simplistic in length, this serves to motivate a more positive response to the questionnaire. Conversely, the respondents may leave the questionnaire before answering all questions if they are more complex in terms of their content, the language is hard to understand, and the number of questions included an excessive time (Bogen, 1996). Furthermore, as the respondents in this study were disabled students, there may be conditions related to their disability that hamper their response to the questionnaire, such as visually impaired students, hearing impaired students, students with learning disability who therefore may need more time for completing the four steps for responding to the questionnaire.

The questionnaire in this study was appropriate it did not contain long sections of questions. The studies conducted by Bogen (1996) and Vicente & Reis (2010) indicate that a short questionnaire receives a higher response rate than longer questionnaire. Additionally, Bogen (1996) found that the number of pages in questionnaire, 6-9, received a higher response rate from the respondents than those that exceeded this number of pages. Moreover, Vicente & Reis (2010) also confirmed that a questionnaire containing 20 questions also received a high response rate from the respondents. Based on these observations the questionnaire in this study contained 20 questions (that include sub questions in some sections). As noted in the piloting of this study, the disabled students spent 20-30 minute on the questionnaire, which is a suitable time for encouraging respondents to complete the survey.

The questionnaire in this study was appropriate as it did not contain long sections of questions. The studies conducted by Bogen (1996) and Vicente and Reis (2010) indicate that short questionnaires tend to receive more responses than longer questionnaires. Additionally, Bogen (1996) found that questionnaires consisting of between six and nine pages received more responses than those with more pages. Moreover, Vicente and Reis (2010) confirmed that a questionnaire containing 20 questions also resulted in a high response rate. Based on these observations, the questionnaire in this study contained 20 questions (some of these contained sub-questions). As noted in the piloting of this study, the disabled students spent 20-30 minutes on the questionnaire, which is a suitable time and one which encourages respondents to complete surveys.

The questionnaire was comprised of 20 questions, and was divided into four sections (see Appendix A: Online Questionnaire)

Section 1: Introduction

This section of the questionnaire comprises of a statement that introduced the researcher, the reason for the questionnaire, and confirmed the steps taken to ensure anonymity and confidentiality of the respondent.

Section 2: Demographic data (Q.1-Q.7)

The questions in this section were related to the respondent's demographic characteristics that include asking about gender, age, nature of disability, details of studying (university, year of study and major) and living arrangements. Starting the questionnaire with demographic questions is useful for Thai respondents as this style is likely to be a familiar approach and makes them feel more comfortable about rating their attitude in subsequent questions (Buddhichiwin, 2013). Moreover, the different demographics of respondents serves to identify the factors that relate to the problems they encounter when accessing the DSS services (Gilson and Dymond, 2012; Lightner et al., 2012). For example new disabled students in the first year of study may need support more than disabled student in future years of study.

Section 3: Awareness of the DSS (Q.8-Q10)

In this section, the respondents were asked about their awareness of the existence of the DSS Centre (Q.8), and the following question asked them to confirm whether they had ever used the Centres (Q.9). If the respondents had not used it, the next question asked if they could give the reason for this (Q.10).

Section 4: Access and use to of DSS (Q.11-Q.14)

In this section, the respondents were asked about their frequency of use of the DSS, the receiving of financial support through this process and general experience of using the DSS services. In question 11, the respondents were asked to identify their frequency of DSS centre use based on a multiple-choice scale. Hintze et al. (2002) indicated that questions about the frequency of use of any services is beneficial as the results indicate the behaviour of the user in relation to the services provided, such as the need of the services, and favourite services preferences.

The next question (12) asked about the financial support process that forms part of the service provided by the university DSS department. This question was asked as the response may be directly relate to the frequency of use the DSS centre by

disabled students. This is because disabled students are likely to have a greater need to receive financial support, due to the financial problems related to their disability.

Question 13 related to the experiences of disabled students with the use of the services from the DSS centre. The respondents were asked in sub-questions about the 28 services, which relate to ten service areas, provided for disabled students by the DSS centres in Thailand. Details of ten service areas and related references are shown in table 3.2 below.

Table 3.2 Summary of ten service areas and relevant sources (question 13)

Areas of service	Reference			
	Disability Support Services Centre University of Phayao	Disability Support Services Sukhothai Thammathiraj Open University	Sujirakul (2009)	Tiammanee (2009)
1. Induction, registration and enrolment services	✓	✓	✓	✓
2. Accommodation services	✓			✓
3. Assistive technology services	✓		✓	✓
4. Accessibility information services	✓	✓	✓	✓
5. Training skills services	✓			✓
6. Health and well-being services	✓		✓	✓
7. Transportation services	✓		✓	✓
8. Assistant services	✓		✓	✓
9. Examination support services	✓	✓	✓	✓
10. Job counselling services	✓		✓	✓

The services included in question 13 were consistent with those included in previous research studies (Disability Support Services Centre University of Phayao, 2015; Disability Support Services Sukhothai Thammathirat Open University, 2015; Sujirakul, 2009; Tieammanee, 2009) and with information available from the DSS website and DSS handbook of each university in Thailand which identify the service areas. Therefore, ten areas were selected for the framework for this section of the questionnaire (see table 3.2). For example, the handbook of services from the DSS Centre at the University of Phayao (2015) and Sukhothai Thammathirat Open University (2015) included information about induction, registration and enrolment services for disabled students. The research conducted by Sujirakul (2009) on the meeting of basic needs in educational programmes for physically challenged students at Ramkhamhaeng University asked participants in a questionnaire about their experiences with these service areas the in DSS centre. Moreover, a study conducted by Tieammanee (2009) on the methods for improving the provision of educational welfare for disabled students of Thammasat University asked disabled students about these issues. Therefore, it was considered that it was important to include the induction, registration and enrolment services provided for disabled students by the DSS centre at university in the questionnaire implemented for this study.

However, some service areas were not included in previous research studies or in information available from the DSS centre websites in Thailand. For example, this study and Sujirakul (2009) found that the DSS centre website at Sukhothai Thammathirat Open University (2015) did not show information about providing accommodation services for disabled students. This was perhaps due to the fact that the sampling group of both documents related to open universities, as these universities do not provide accommodation services for disabled students. However, previous research found that that living on campus in university accommodation appears to be valuable for students as they can live, learn, and participate in several activities with peers (Jitsawart, 2010; Sackett, 2015). Moreover, more than 50 per cent of Thai universities provide accommodation for their students and some students in the first year of studying some majors have to live in the accommodation under the policy of most Thai universities (Sukperm,

2013). Therefore, I decided to include the accommodation services area in the questionnaire.

In the next question (Q.14), the respondents were asked further sub questions about the 28 services provided by the DSS centres and their levels of satisfaction with this experience, which were based on rating the different services on a 5-point Likert scale. There are benefits for using this scale in this study as it appears to be a universal method for using in data collection on customer sentiment, such as satisfaction, attitude and opinion (Dawes, 2008) and participants seem to find this option easier to understand when completing a questionnaire (Bertram, 2007; Dawes, 2008). The 5-point Likert scale used was based on the following criteria:

- 1 representing “very dissatisfied”
- 2 representing “dissatisfied”
- 3 representing “neither satisfied nor dissatisfied”
- 4 representing “satisfied”
- 5 representing “very satisfied”

Section 5: The advantages and disadvantages of the DSS (Q.15-Q.20)

The questions in this section of the questionnaire were aimed to meet Objective 3 of this study. There were 5 questions in this section, which used a mix of mixed multiple choice and open questions. Choosing both question styles was appropriate as the multiple choice questions were easy to understand and quick to answer (Siniscalco & Auriat, 2012) while the open questions allowed the participants to respond to the questions freely, thus showing their individual opinions. In addition, Krosnick and Presser (2010) state that an open question is useful for asking the respondents the important questions of the research. Therefore, the questions Q.15, 17 and 18 asked the respondents about the importance of the DSS centre and the need to improve the DSS’s services, using the multiple choice and open questions for adding their opinions. In Q.16 and 19, both open questions, the respondents were asked to give their opinion about the advantages and disadvantages of the DSS (Q.16) and provide any other comments on the DSS Centre (Q.19). Finally, in the last question (20),

respondents were asked if they would like to be a participant in the in-depth interview stage and to provide contact details.

The questionnaire was designed using the English language at the beginning for the purpose of presenting the idea to advisors and requesting the ethical process from the researcher's UK University. Following this process, the questionnaire was then translated from English to Thai. Although Su and Parham (2002) point out that the translation of a questionnaire from one language to another may have the effect of losing the meaning of the original version, it appears that questionnaire translation is a common practice for researchers, as the questionnaire in the original language version may not be appropriate to a population with a different language and culture. Therefore, translating the questionnaire appears to be common practice, although the translated questionnaire needs to ensure that the words used have the closest possible meanings to the original (Buddhichiwin, 2013). In addition, this study used translating the questionnaire to accommodate the respondents, who were Thai disabled students. They could understand each question in the questionnaire in the Thai version and expressed their experiences on the online questionnaire without the language problem.

3.5.3 Piloting questionnaire

After designing the questionnaire, the piloting was an important phase in research approaches. This process may benefit to a researcher as it helps them to develop the questionnaire instrument and it is essential to enable the researcher to identify and resolve potential problems before conducting the main study (Adams et al., 2008). Piloting questionnaires is an important phase in research approaches. This process helps the researcher to develop the questionnaire instrument, and enables them to identify and resolve potential problems before conducting the main study (Adams et al., 2008).

The questionnaire was piloted with 10 Thai disabled students (two visually impaired students, three hearing-impaired students and five physically disabled students). After finishing the questionnaire, the respondents were asked to provide a range of comments about each question section in the form and send these to

the researcher via email (Buddhichiwin, 2013) (see Appendix B, Questionnaire comment form). They were asked to comment on general aspects related to the questionnaire, such as: the length of time it took to complete the questionnaire; the questionnaire's layout, the number of questions included; the order of the questions; the clarity of the questions, the wording and the instructions; which questions they did not want to answer; and which questions needed to be removed from the questionnaire. In addition, visually impaired students were asked about access to the online survey and the need to provide it in alternative formats, such as a Braille version being sent by email. Finally, they were asked to provide any other suggestions they had to improve the questionnaire. The main feedback points were as follows:

- The questionnaire was easy to follow.
- The layout was easy to understand, especially by visually impaired students, who said that they can access an online survey by computer in the same way as any other participants.
- The pilot respondents suggested that question 13 seemed to be long and some items in it were not considered relevant, for example, special programmes for the blind is not relevant to deaf or hearing impaired students. In addition, a sign language interpreter service is not relevant for visually impaired students.

3.5.4 Implementation

Data collection for the first stage of the online questionnaire began once ethical approval had been obtained from University of Exeter and permission had been received from the presidents of 20 Thai universities. The Thai university presidents sent me approval documents via the DSS centres and/or the Divisions of Student Affairs (DSA), allowing me to promote the study and pass details of the aims of the study and the URL of the online questionnaire to the disabled students. 234 responses were gained from the online survey. However, 31 questionnaires were incomplete as they did not show demographic data and some disabled students only responded to some of the section questions (between one and five of the 20 questions). Ultimately, there were 203 completed online questionnaires, and it was

these responses that were relied on for the data analysis process and the development of the interview questions in the second stage of the research.

3.5.5 Data analysis

All the quantitative data collected from the online survey was analysed using the Statistical Package for Social Science (SPSS) software, which enabled me to identify the frequencies and/or percentages of the positive or negative responses. The programme also allowed the examination of the responses based on the characteristics or demographic variables related to the respondents, for example gender, age, types of disability, types of university level of education. In this study, a frequency approach was used for analysing three main questions: respondents' profiles; awareness of the DSS; and usage of and support from DSS centre to process an allowance application. Mean scores and standard deviation (SD) were employed to represent student satisfaction with using the DSS. SD indicates how far the individual responses to a question deviate from the mean providing measures of spread or variation of responses to a question (Garth, 2008). In contrast, the qualitative data from the open-ended questions in the online survey were manually coded and a five stage analysis procedure was employed.

3.5.7 Stage 2 In depth interview

3.5.8 Sampling for In depth interview

The sample population for this stage of the research was gathered from the volunteers' responses to the survey question that asked about their willingness to participate in the interview process. Using this form of volunteer sampling was beneficial in this study, as the respondents had already indicated that they were interested in the topic area and were prepared to participate further in the research (McMillan, 1996). Moreover, this sampling process was convenient for the study as it reduced the time required to obtain responses and, furthermore, enabled the in-depth interview process to commence at an earlier stage. The request for interview participation was the last question in the questionnaire. The 79 disabled students who responded positively to this request can be divided into two groups: firstly, the

respondents (31) who provided their names, email addresses and/or telephone numbers and, secondly, the respondents (48) who only gave their names. Therefore, only 31 of the respondents could be contacted via email or telephone. Ultimately, however, 27 of those respondents were not contacted as only four respondents confirmed their willingness to participate in the in-depth interviews. The limited amount of time available for the completion of this research (from November 2015 to March 2016) also led to challenges when it came to data collection and analysis. Therefore, this second stage of interviews needed to start early and could not be delayed due to difficulties in contacting potential participants. This could be a reason why only four students took part in these interviews.

3.5.9 Interview schedule construction

The second stage of this study consisted of interviews. These interviews were designed to meet the same objectives as the online survey, although in more depth. Therefore, the interview schedule was based on the questions from the online survey. The interviews were divided into three sections and included 10 main questions divided into three sections (see Appendix H: Interview question schedule).

Section 1: after the relatively informal demographic and personal questions, the respondents were asked about their disabilities and details about their study area, such as which is their university, and what year of study are they currently at (Q.1-Q.3).

Section 2: the respondents gave their opinions on awareness and use of the DSS (Q.4-Q.6). Additionally, Q 6 asked about use of and obstacles or problems encountered in accessing the services of the DSS. This question provided a range of ten service areas for interviewees to consider. However, because some universities may not provide all ten services, the respondents could select those services that were applicable to their particular university. The ten services were similar to those in the questionnaire survey, and included induction, registration and enrolment services, accommodation services, assistive technology services,

accessibility information services, training skills services, health and well-being services, transportation services, assistant services, examination support services and job counselling services. The questions also asked about obstacles or problems in using the services.

Section 3: the final section asked participants to give their opinions on the important advantages and disadvantages of the DSS, and to give their views how these could be improved in their universities and in Thailand.

3.5.10 Piloting the interviews

The pilot study is an important step which helps the researcher to clarify the design of the research (Maldaon & Hazzi, 2015). In order to ensure that this research had a clear design, a pilot study was used for the interview stage. This pilot study involved four disabled students who had similar backgrounds to the students in the survey sample group. The students involved in the pilot study included two visually impaired students, one hearing-impaired student and one physically disabled student. The first step of the pilot study was to send the four participants the interview schedule and the pilot comment form, and ask them for their views on the questions included and on interviewing. I sent these documents to them because they needed time to read and comment on them; this was particularly important for the visually impaired respondents.

The four respondents had discussions with me via Skype. These discussions were recorded using an application on a smartphone. However, I chose to interview two respondents for the first step of the pilot study, so that I could then improve the interview schedule before moving on to the second step. I kept two respondents for the second step of the pilot study. I selected four respondents for the pilot study, as I needed to use the same number as I would be using in the real interviews. It was also necessary for me to consider the length of time taken to connect to the participants, interview them and transcribe the interviews in order to conduct the final (real) study.

During the first pilot study, many questions were not answered, as the participants talked out of the topic area of the question and each interview took between two and two and a half hours to complete. The interviews appeared to be a waste of time, as I could not gain responses related to the aims of the research. However, these pilot interviews were useful, as I learned from the situation and the participants. Moreover, the participants gave feedback related to the general aspects of the interview schedule, the number of questions included, the wording of the questions, and the instructions. Their comments led to the further development of the interview schedule. For example, the questionnaire could be altered where it was difficult to understand, where the questions did not relate the research aims and to include any additional questions required. However, the feedback from the first two respondents in the pilot study was that the questions were easy to understand and that there were few issues with the questionnaire and that there

The interview technique was changed for the second step of the pilot study. This included changing some questions in the interview schedule and controlling the interview to ensure that it remained focussed on the topic and was completed in less time. I improved the interview schedule for these interviews based on the outcomes of the interviews in the first step of the pilot study, deleting and changing language in some questions in section two about the interviewees' awareness and use of the DSS, for example, as the subjects of the first pilot interviews reported that this section was difficult to understand. Once these questions in the interview schedule had been improved, the participants in the second step of the pilot were satisfied with the questions, process and the amount of time that the interviews took. The time for interviewing was reduced to between one and one and a half hours, a duration that seemed to be appropriate for communication, as the participants did not appear to be bored and were still interested in providing information.

3.5.11 Implementation

The interviewing process began after identifying volunteers during the online survey in the first stage. 31 respondents provided contact details. I contacted these volunteers and selected the participants for the in-depth interviews.

First step: After collating their email addresses from the final question on the online survey, I immediately sent a first email to these 31 respondents, thanking them for participating in the questionnaire, introducing myself and the purpose of the second stage of the study, and asking them, if they would like to participate in it, to confirm this by email.

Second step: When respondents replied, I sent a second email to them in order to make an appointment and gave the option of interview modes; telephone, and/or video-conferencing via three programmes, namely Skype, Facebook and Line. This is because these programmes seem to be the most familiar with Thai people currently. Additionally, communication using these programme is a convenient way to meet participants who were geographically dispersed (Hay-Gibson, 2009). Finally, all participants were asked to give informed consent (see Appendix D: Participant consent form for interviews).

Third step: The in-depth interview could commence when the respondents replied to the second email, which confirmed an appointment and interview mode consent obtained.

In the final event, four participants confirmed an appointment for interviewing. These included two physically disabled students and two visually impaired students from four different universities in different parts of Thailand. Two participants selected to be interviewed by telephone and two participants requested to be interviewed via a video call using the Facebook Messenger programme. All interviews were conducted during August and September 2015 and were recorded using a smartphone application.

Summary interview participant information is shown in Table 3.3.

* Pseudonyms are used to protect anonymity

Table 3.3 Summary participant information

Name*	Type of disability	Type of study	University*
Peter	Physically impaired disability	Full time Undergraduate	Ayotaya University
Mary	Physically impaired disability	Full time Undergraduate	Bangsiam University
Nancy	Visually impaired disability	Part time Postgraduate	Chiangburi University
Rita	Visually impaired disability	Full time Undergraduate	Danthai University

3.5.12 Interview Data analysis

The interviews during the application process were recorded on a mobile phone. Microsoft Word was used for coding in this study as the researcher is not expert in computer software packages such as NVIVO, and it may take a long time to learn how to use this programme. The interviewees in this study were a small group of only four participants, so a manual systematic data coding process seemed appropriate for the study. Although data from each question was grouped into generated categories using a manual process, Denscombe's qualitative analysis process was applied (Buddhichiwin, 2013; Magwa & Magwa, 2015). The interviews were conducted in the Thai language and all data was transcribed in Thai . Therefore, before starting the analysis of the interview data, the transcript had to be translated from Thai to English to present the data to supervisors and other relevant people. Furthermore, pseudonyms were allocated to interviewees and their universities to protect the anonymity of the interviewees and others. The steps in the qualitative analysis were as follows:

1. A familiarisation process will be useful for indentifying themes with appropriate codes that can be applied to categorise (Magwa & Magwa, 2015). Therefore, in this study, the researcher familiarised herself with the data by listening to the recording, re-reading the transcribed and translated data, and searching for passages of text that were connected to the research questions.

2. The first cycle of coding was carried out after the familiarisation process by reading the transcripts. This study used a word processor, so data in the transcriptions was highlighted in Microsoft Word and ‘add new comment’ was used to show codes. Quotes from the transcriptions were cut and pasted into a separate document to see the codes clearly and prepare for the categorisation stages.

3. The second cycle of coding relates to deciding which codes make the most sense for categorising the data (de Silva, 2014). The categorising stage is important as codes need to organise and group similarly coded data as it shares some characteristics that form the beginning of a pattern (Saldaña, 2009, p. 8). Moreover, categorising not only groups codes, but also reduces the number of codes as they may merge into broader categories or general theoretical ideas. As some codes seemed to be related to each other, this study decided to recode and group codes together to combine meaning and explanation prior to display (Grbich, 2012). An example of the coding process and categorisation in this study can be seen in Figure 3.1

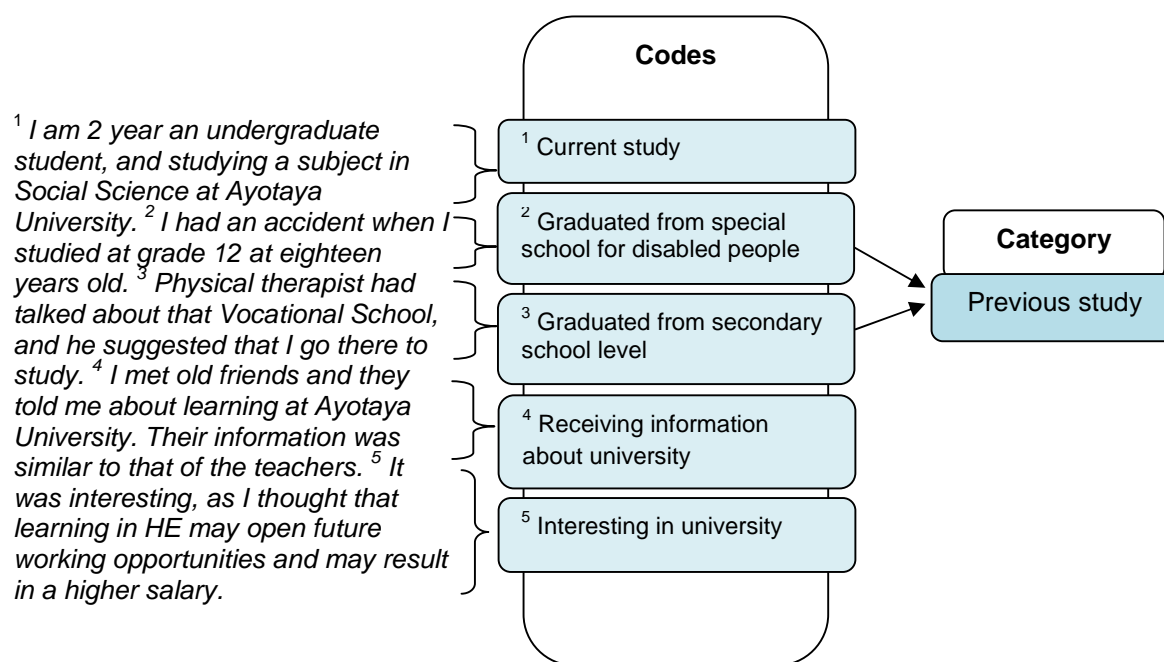


Figure 3.1 Example of the coding process and categorisation

Figure 3.1 shows the coding process and categorisation. One of the interviewees explained their story and reasons for studying in. These codes were extracted from the transcriptions: current study, graduated study from special school for disabled people, graduated from secondary school level, receiving information about university and interesting in university. However, there were similarities in graduated study from special school for disabled people and graduated from secondary school level, so these were grouped. Then, all the codes were linked to the themes of education background and awareness of DSS.

4. Themes were developed by grouping the codes and then presenting these in a table to gain a better picture of the findings from the interview data. Quotations were selected to illustrate the experiences of the interviewees relevant to each theme. Finally, concepts in some of the generalised statements in the data were developed to draw general conclusions based on the relationships, patterns and themes identified in the data. The coding table for the research objectives is presented in the Appendix J: The example coding table and research objectives number 1.

3.6 Ethical considerations

During the study, I paid attention to ethical considerations, as this is an important part of the practice of carrying out research. The main considerations seemed to be the framing of the practices between the researcher and the research participants. In this study, I explained to each stage of interviewing to the participants and stated that they could withdraw from the process at any time. The researcher and research participants need to understand their interactions in the research method in order to achieve quality data collection, which is an important part of the study. Moreover, the data collection methods need to protect the rights of the researcher and participants from harm and issues that could otherwise arise (Czymoniewicz-Klippel et al., 2010). Therefore, I considered the ethical issues mentioned above and used these as the basis for implementing the data collection from the disabled students participating in the research. For example, pseudonyms were used to protect anonymity of disabled students, as otherwise they may

receive negative feedback, such as blame from university, faculty, and DSS centre, as their responses may be seen as reflecting negatively on the university.

The data collection permission processes used at each stage of the research were carefully designed because, as the participants were disabled students, they might be vulnerable and might not have adequate freedom to make decisions

(Liamputtong, 2006). In addition, their individual disabilities might affect their ability to access information and their ability to decide to participate in this research.

Therefore, providing potential participants with clear information about their autonomy of decision-making, beneficence, anonymity and the confidentiality of their personal information and responses each stage of data collection may help them to understand their rights more fully before they agree to participate in questionnaires or interviews. For example, the students may be concerned that presenting the DSS centre in their university in a negative light may affect the support that they receive from the centre. In other words, disabled students may not receive services if they make negative comments about DSS services and/or the DSS centre may reduce support to the students if they express negative views about the centre. Therefore, pseudonyms were used in order to protect the anonymity and confidentiality of the respondents and participants when they provided information about their experiences of the DSS in their universities.

The ethical consideration process for this study was divided into three stages. Firstly, I was granted permission to conduct the research by the UK university ethics committee. This allowed me to start the research process and the data collection in Thailand. Secondly, I received approval forms from the universities where the students were studying enabling me to conduct the online study. As a result of this, the disabled students could decide whether or not to participate in the study and to volunteer to take part in the online survey. Finally, a consent form was sent to the four participants taking part in the interview process, which they subsequently signed and returned. The details of ethical consideration process in the UK and Thailand were as follows:

3.6.1 The process in the UK

I started the process of the ethical consideration in the UK, as I am studying at a UK university, therefore there was an initial need to gain approval from the university and receive the Ethical approval certificate (see appendix C: Ethical approval certificate). This certificate was important for collecting data in Thailand, as I needed to a copy to each Thai university for permission for data collection from disabled students in the university. I did not start to gather any data until I obtained approval from the Ethical Approval Committee of each Thai university.

3.6.2 The process in Thailand

The process of ethical consideration in Thailand started when I sent important documents about the researcher and the proposed research to the presidents of the 31 universities in Thailand. These documents included: the University of Exeter's approval form; a printed copy of the online questionnaire; a leaflet containing information about the online survey and a web link to the questionnaire; and a letter from the Office of Educational Affairs at the Royal Thai Embassy, introducing the researcher and confirming the Thai government's support for them. The aim of sending these documents was to explain my profile and the purpose of the study to the president of each university. These documents were also sent to the DSS centre staff, additionally, they were sent to disabled students so that they could understand the purpose of the study and decide whether or not to participate in it. There were many ethical stages to complete before I reached the participants and this took a long time, as the permission process for collecting data by online survey is complex for disabled students in HE. As previous studies conducted in Thailand had not provided evidence about the use of online surveys for data collection with disabled students in HE, it is possible that each university needed to consider various issues before giving their approval for data collection in this study. For example, they may have needed to consider: the value of this study; the pros and cons of participation in this study; and the disabled students' understanding of the purpose of this study and accessing the online survey.

Once the university presidents had given me their permission, the approval letters were sent to the DSS centres, or the universities' student affairs divisions so that they could disseminate details of my data collection process to their disabled students. The DSS centres and student affairs divisions confirmed their approval of my data collection process by email and instructed me as to how to provide information about the data collection process to the students. Some DSS centres gave the data collection information to their students in person, or via technology such as the Internet or the Line application (for mobile phones). Once the students had received information about the study's data collection process and understood the aims of this research, they were able to complete the online questionnaire. However, nine universities did not give me permission to collect data for this study. I contacted these universities by telephone several times and they confirmed that they were checking my documents and would let me know. However, I did not receive the completed approval forms by email or by post and I could not wait their permission to collect data due to the time limitations of this study.

Moreover, one university used a different process to grant permission for research data collection, which started via a special centre working on research ethics. I could only send all the documents to the president of the university for approval after gaining permission from this centre. Therefore, I sent the approval form and additional information about my research to this centre. I also had to complete another form provided by the centre in order to gain approval. However, in the end, I could not collect data in this university due to time limitations.

3.6.3 Consent for the interview stage

In terms of interviewing, I sent an email to all participants who were asked to give informed consent, which stated that all participants have the right to withdraw at any time during the study (see Appendix D: Participant consent form for interviews). I sent the consent form to participants by post and email, depending on the needs of participants and they were returned in the same way. Furthermore, before starting interviewing process I also talked about the ethical issues with each participant in order to make sure they understood the relationship of this issue with their rights for participation in this study.

3.7 Limitations of the study

The limitations of this research affected each aspect of the data collection process. As the study included two stages of data collection, an online survey and in-depth interviews, each stage involved many processes that took time to complete. For example, this included designing the online questionnaire and interview schedule in two languages (Thai language for the pilot study participants and English language for presenting to supervisors), finding disabled students for pilot studies, improving the questionnaire and interview schedule, connecting with respondents and interviewees. These activities took time and some need to be completed several times in order to ensure no problems arose during their final implementation. Equally, the duration of my study needed to be completed within a set dateline under the contract of my sponsor, who provided financial support. The study took longer than planned for a number of reasons. For example, the process of permission for gathering data from 31 universities took longer than originally planned for, and therefore affected the start point for data collection. In the interviewing process, some participants had problems with their health, thus I needed to postpone appointments for interview in order to wait for the participants who had good health and volunteered to participation in the interview.

For the process of data collection in Thailand I could not directly contact the disabled students in each university, thus I needed to access students via the university through the DSS centre and/or student division. It appeared to be the best way of attaining a sample of disabled students as I was studying in the UK, thus it saved time and costs for travelling to 31 universities in Thailand. As the organisations mentioned above often have the chance to meet the students face-to-face in the DSS centre and classes and disabled students seems to be familiar with the centre, providing information about this research via the centre to the students seemed to be an appropriate method. Additionally, in the case of disabled students in the open universities, the DSS centre of these universities had the connection data for students in all regions of Thailand, such as email, telephone and applications for smart phone. Thus, providing the information from the DSS centres about this study to disabled students in their university also seemed

appropriate. However, as I could not meet the disabled students personally to explain the aims of this study, I was also unable to know how the universities, DSS centres or student divisions gave the information to all disabled students in their universities.

A second limitation is related to the in-depth interview process. The participants agreeing to be interviewed were not many, solely four participants. Additionally, only two types of disabled students (two visually impaired students and two physically impaired students) responded positively. There were no volunteers with other types of disability, thus hearing impaired students, students with a learning disability and autistic students were not included. Consequently, the outcome of the study may not represent a wide variety of different members of the target population, and their experiences of using the DSS. Although 79 disabled students volunteered in the last question of the questionnaire, it was not easy to find the participants for interviewing, as the majority did not confirm their agreement to participate further in this study

A third limitation was my research questionnaire design skills, as this was important for gathering appropriate information from the respondents. However, it appears that in the questionnaire could not get some useful information, as it did not cover some areas of awareness of the DSS services and use of the DSS in sufficient depth. Moreover, my skills on survey online design may not be sufficiently developed, as it seems that the questionnaire was lengthy and covered many pages, which may be off-putting for many disabled students. Having learned from this study, I am aware that I will in the future be able to design the online survey that results in a more attractive questionnaire and a more simple process for accessing the questionnaire.

Chapter Four

Findings

4.1 Introduction

This chapter presents the findings from the quantitative and qualitative approaches to data collection from disabled students in 20 universities in Thailand. The aim of this chapter, as outlined earlier, is to present the findings from the data analysis in order to fulfil three research objectives:

To examine disabled students' conceptualisations of disability support services.

To discern disabled students' views on accessing and using disability support services.

To discover disabled students' views on the advantages and disadvantages of disability support services.

This chapter is comprised of two sections. The first section is the results of the questionnaire research which presents the main results of the first phase. (These were collected from the online questionnaire survey with disabled students in 31 universities in Thailand). The second section of findings relate to the second phase of the research, involving follow-up in-depth interviews with four disabled students who were willing to participate from the first stage.

4.2 Questionnaire Results

This section is a report on the findings of the first phase of the research. This section will begin with an outline of the demographic profile of the 203 respondents. Thereafter, conceptualisations of the DSS will be discussed. The following section will focus on the use of and satisfaction in the services of the DSS centre. The final section will highlight the advantages and disadvantages of the services of the DSS centre.

4.2.1 Demographic characteristics of the respondents

Table 4.1 provides a summary of the demographic profile of the sample. Out of the sample group of the 203 disabled respondents, there were 125 females (61.6%) and 77 males (37.9%). Just over one third of the sample were between 18 and 20 years of age (35.1%) and 58 students (28.6%) were aged 21–23 years, while only 5.9 percent were 27–29 years old (12 respondents). There were nine types of disability among the respondents, a significant number of whom were physically disabled or suffering physical or health-related impairments (71 respondents comprised 35.0% of total), while 65 (32%) had hearing impairments, 44 (21.7%) had visual impairments and only one respondent (0.5%) had a speech and language disorder.

Table 4.1 Demographic data

	Category	Number of students	Percent
Gender	Male	77	37.9
	Female	125	61.6
	No response	1	0.5
	Total	203	100
Age	17 and under yrs	-	-
	18 to 20 yrs	71	35.0
	21 to 23 yrs	58	28.6
	24 to 26 yrs	49	24.1
	27 to 29 yrs	13	6.4
	30 yrs and over	12	5.9
	Total	203	100
nature of disability	Hearing impairment	65	32.0
	Mental impairment	5	2.5
	Visual impairment	44	21.7
	Physical or health-related impairment	71	35.0
	Learning disabilities	7	3.4
	Autism	4	2.0
	Emotional and behavioural disorders	4	2.0
	Speech and language disorders	1	0.5
	Multiple disabilities	2	1.0
	Total	203	100

Source: Author / Data Collected through my Online Survey

Table 4.2 indicates that the respondents were studying at 20 universities, and came from every region of Thailand. (There were no respondents from 10 universities, the reasons for this was addressed in Chapter 3). It is clear that the largest proportion of respondents were studying within the Rajabhat Universities system (See Chapter 2, Section 2.3.2 for more detail); there were 24 disabled students (11.8%) from each of the following: Lampang Rajabhat University, Songkhla Rajabhat University and Surat Thani Rajabhat University. There were 18 students from Suan Dusit Rajabhat University (8.9%), 8 (3.9%) from Sakon Nakhon Rajabhat University. There were 7 disabled students (3.4%) from each of the following Chiang Mai Rajabhat University, Kamphaeng Phet Rajabhat University and Pibulsongkram Rajabhat University. There were 5 disabled students (2.5%) Nakhon Ratchasima Rajabhat University, 4 (2.0%) from Chiang Rai Rajabhat University, 15 (7.4%) from the Open University, namely, Ramkhamhaeng University.

Table 4.2 Number of disabled students in universities in Thailand

University	Number of	
	Students	Percent
1. Burapha University	2	1.0
2. Chiang Mai University	14	6.9
3. Kasetsart University	9	4.4
4. KhonKaen University	1	.5
5. Mahasarakham University	-	-
6. Mahidol University	-	-
7. Naresuan University	8	3.9
8. Ramkhamhaeng University	15	7.4
9. Srinakharinwirot University	-	-
10. Sukhothai Thammathirat Open University	8	3.9
11. Thammasat University	7	3.4
12. Ubon Ratchathani University	-	-
13. University of Phayao	4	2.0
14. Rajamangala University of Technology Lanna	7	3.4
15. Rajamangala University of Technology Thanyaburi	-	-
16. Chaiyaphum Rajabhat University	-	-
17. Chiang Mai Rajabhat University	7	3.4
18. Chiang Rai Rajabhat University	4	2.0
19. Kamphaeng Phet Rajabhat University	7	3.4
20. Lampang Rajabhat University	24	11.8
21. Maha Sarakham Rajabhat University	-	-
22. Nakhon Ratchasima Rajabhat University	5	2.5
23. Phranakhon Rajabhat University	-	-
24. Pibulsongkram Rajabhat University	7	3.4
25. Rambhaibarni Rajabhat University	-	-
26. Roi Et Rajabhat University	-	-
27. Sakon Nakhon Rajabhat University	8	3.9
28. Songkhla Rajabhat University	24	11.8
29. SuanDusit Rajabhat University	18	8.9
30. Surat Thani Rajabhat University	24	11.8
31. Yala Rajabhat University	-	-
Total	203	100

Source: Author / Data Collected through my Online Survey

Table 4.3 shows the number of subjects pursued by these disabled students, from which it is clear that many different subjects were being studied. Overall, Linguistics was the most popular subject, involving 23 (11.3%) respondents, while the second most popular subject area was the Arts, and concerned 19 (9.1%) respondents.

Table 4.3 Subject pursued by disabled students

	Subject	Number of Students	Percent
1.	Agriculture	2	1.0
2.	Architecture	2	1.0
3.	Arts	19	9.1
4.	Business Administration	16	7.9
5.	Chemistry	1	.5
6.	Communication Arts	5	2.5
7.	Community Development	4	2.0
8.	Computer Science	14	6.9
9.	Economics	1	.5
10.	Education	10	4.9
11.	Engineering	2	1.0
12.	Health sciences	2	1.0
13.	History	1	.5
14.	Home Economics	7	3.4
15.	Information Technology	5	2.5
16.	Journalism	1	.5
17.	Law	10	4.9
18.	Library and information science	14	6.9
19.	Linguistics	23	11.3
20.	Mass Communication	3	1.5
21.	Mathematics	2	1.0
22.	Occupational Therapy	1	.5
23.	Painting	1	.5
24.	Philosophy	1	.5
25.	Political science	5	2.5
26.	Psychology	1	.5
27.	Public administration	3	1.5
28.	Science	2	1.0
29.	Social Sciences	4	2.0
30.	Social work	4	2.0
31.	Technology	6	3.0
32.	No response	31	15.2
Total		203	100

Source: Author / Data Collected through my Online Survey

Table 4.4 shows the degree and year of study of the respondents. The large majority were undertaking undergraduate studies, with 68 in their first year, 43 in their fourth year, 42 in their third year and 39 in their second year. In addition, those respondents who selected 'Other' had the option to provide further details; there were nine (4.4%) undergraduate students beyond their fourth year, with one respondent (0.5%) studying at postgraduate level. One student failed to respond.

In Thailand, full-time students study for more than four years at undergraduate level in some subjects, such as Engineering, Medicine, and Teaching. Moreover, students in some universities and at Open University could maintain the status of undergraduate for eight years.

Table 4.4 Degree and year of disabled students

Degree and Year	Number of Students	Percent
Undergraduate year 1	68	33.5
Undergraduate year 2	39	19.2
Undergraduate year 3	42	20.7
Undergraduate year 4	43	21.2
Postgraduate	1	0.5
Other	9	4.4
No response	1	0.5
Total	203	100

Source: Author / Data Collected through my Online Survey

Table 4.5 shows the type of accommodation used by disabled students. 80 respondents (39.4%) were living in university accommodation, with 71 (35.0%) in private accommodation, while 50 (24.6%) stayed at home with their families, 2 (1.0%) were staying at their office sleeping accommodation.

Table 4.5 Type of accommodation among disabled students

Accommodation	Number of Students	Percent
At family/home	50	24.6
In university accommodation	80	39.4
In private accommodation	71	35.0
Other– please specify	2	1.0
Total	203	100

Source: Author / Data Collected through my Online Survey

4.2.2 Conceptualisations of the DSS

This section aims to identify conceptualisations of the DSS which relate to the disabled students' awareness of the DSS centre and their use of the services of the centre. However, since there were some of the questionnaire's respondents who were not even aware of the existence of this centre their reasons for not using the DSS centre were clear.

Table 4.6 shows that 92.1% of respondents were aware of the DSS centre, whereas 5.9% were not aware of it and those who failed to respond amounted to 2%. It is clear that almost 81.8% of the sample used the DSS centre, while just 16.7% do not use this centre with no response at 1.5%. When asked about the reasons for not using the DSS centre, 38.2% were unaware of its existence, 17.6% were not interested in using it or felt they had no need to use it and were reluctant to ask for help, while 8.8% was unsure about how to use it. Additionally, 5.9% had no one to help them, while 2.9% had access to alternative assistance. 5.9% gave other reasons, such as that they could learn by themselves, and therefore, did not need to use the DSS centre.

Table 4.6 Disabled students' awareness and use of the DSS centre

	Number of Students	Percent
Awareness of the DSS centre		
Yes	187	92.1
No	12	5.9
No response	4	2.0
Total	203	100
Use the DSS centre		
Yes	166	81.8
No	34	16.7
No response	3	1.5
Total	203	100
Reason for not using the DSS centre (respondents to select more than one answer)		
Unaware of its existence that	13	38.2
No interest in using it	6	17.6
No need to use it	6	17.6
Unsure about how to use it	3	8.8
Access elsewhere	1	2.9
No-one to help	2	5.9
Reluctance to ask for help	6	17.6
Other (please say what)	2	5.9

Source: Author / Data Collected through my Online Survey

Table 4.7 shows the frequency with which the DSS centre is used. It was discovered that the majority of respondents 68 use this centre occasionally, which may be less than once a term, while 55 frequently use the centre on a weekly basis. 22 use it monthly, and 21 use it daily.

Table 4.7 Frequency of the DSS centre use and support from the DSS centre

	Number of Students	Percent
Frequency of the DSS centre use		
Daily	21	13.0
Weekly	55	33.1
Monthly	22	13.3
Occasionally(e.g. less than once a term)	68	41.0
Total	166	100

Source: Author / Data Collected through my Online Survey

4.2.3 The use and satisfaction towards the Services of the DSS centre

The DSS financial support process will be presented in addition to researching usage and satisfaction with its services.

Table 4.8 shows the support from the DSS centre to process allowance applications. Regarding financial support from each university, 92.8% of respondents received support services from the DSS centre in terms of how to process their allowance applications. However, 7.2% of them did not receive this support.

Table 4.8 Support from the DSS centre to process the Allowance Application

	Number of students	Percent
Support from the DSS centre to process allowance application		
Yes	154	92.8
No	12	7.2
Total	166	100

Source: Author / Data Collected through my Online Survey

In this study, the services were divided into ten areas that were used as the framework for a section of the questionnaire regarding the services provided by the DSS centre (see Chapter 2, Section 2.2.5 for more detail). Questions were asked on the following topics:

1. Induction, registration and enrolment services

2. Accommodation services
3. Assistive technology services
4. Accessibility information services
5. Training skills services
6. Health and well-being services
7. Transportation services
8. Assistant services
9. Examination support services
10. Job counselling services

Disabled students were asked for what services they have used the DSS centre in relation to the above mentioned topics and to give a satisfaction rating for these services. Tables 4.8-4.17, present the number of disabled students and their utilisation of each service. In addition, the results give the means and standard deviations on the five attitude sub-scales in each service; these responses were then ranked with 5 corresponding to

- 1 representing “very dissatisfied”
- 2 representing “dissatisfied”
- 3 representing “neither satisfied nor dissatisfied”
- 4 representing “satisfied”
- 5 representing “very satisfied”

Table 4.9 demonstrates the use and satisfaction levels of the disabled students in the service area of: induction, registration and enrolment provided by the DSS centre. The new students’ orientation and registration service is the one which most the respondents claimed to use the most, with 70.9% using it, while 18.7% did not use it service. The mean score of this service shows that the satisfaction level of respondents is close to ‘satisfied’ (mean score of 4.09; SD 1.20). In the enrolment for the module classes service, 67.0% of disabled students used this service, although 22.2% did not. User satisfaction with this service was the highest, with a mean score of 4.14, which is close to ‘satisfied’. In the last service in this area, relating to registering with the DSS database service, some 69.5% of disabled students used it, while 22.2% had never received this service. Students

also showed satisfaction with this service, providing a mean score of 4.09 (SD 1.11), which is close to 'satisfied'. Thus, for the three services in the area of induction, registration and enrolment, it was illustrated that these were popularly utilised.

Table 4.9 Use of the DSS centre and Satisfaction towards the Induction, Registration and Enrolment services

<i>Induction, registration and enrolment services</i>	Use of the DSS Centre				Satisfaction towards the DSS Centre		
	Yes or No				Number	Mean	SD
	Yes	(%)	No	(%)			
New student orientation and registration	144	70.9	38	18.7	146	4.09	1.20
Enrolment for the module classes	136	67.0	45	22.2	147	4.14	1.11
Registering with the DSS database	141	69.5	41	20.2	148	4.09	1.11

Source: Author / Data Collected through my Online Survey

Table 4.10 demonstrates the use and satisfaction levels of the disabled students in the service area of accommodation. The most popular service area used by the respondents is the service for helping them to find accommodation: 45.3% used it while 42.4% did not service. It is noteworthy that the number in the two opposing groups are very similar. The mean score (3.82; SD 1.17) of the users shows that the satisfaction level of respondents is close to 'satisfied'. 28.6% of respondents used the other accommodation service, which provided information about necessary adaptations to a student's accommodation (whether at home or in student accommodation). Such adaptations include, for example, an assisted toilet and ramp. Over half of the respondents (59.1%) did not use this service. The number of users shows the satisfaction level with this service is interpreted as 'satisfied' (mean score of 3.82; SD 1.12).

It can be seen that the percentage of use of this information about adaptations to students' accommodation is not particularly high. This could possibly mean that this service is only relevant to those disabled students who need support in

adapting their living environment i.e. physically disabled students. Therefore, these students are likely to be the main respondents to this question.

Table 4.10 Use of the DSS centre and Satisfaction towards Accommodation services

<i>Accommodation services</i>	Use of the DSS Centre				Satisfaction		
	Yes or No				towards the DSS Centre		
	Yes	(%)	No	(%)	Number	Mean	SD
Finding accommodation	92	45.3	86	42.4	119	3.82	1.17
Providing information concerning about adaptations to accommodation where necessary	58	28.6	120	59.1	122	3.82	1.12

Source: Author / Data Collected through my Online Survey

Table 4.11 demonstrates the use and satisfaction levels of the disabled students in the service area of assistive technology. 'Assistive technology' refers to the recording equipment service which provides tape recorders and other recording devices. 45.8% of disabled students did not use this service. The mean score for this service shows that the satisfaction level of respondents is very close to 'satisfied' (mean score of 3.94; SD 1.13). In terms of borrowing hearing aids, 3.5% of the disabled students used this service, while 53.7% thereof did not. Students showed satisfaction with this service with a mean score of 3.95 (SD 1.13), which must be interpreted as 'satisfied'. The last service is the provision of special software for visually impaired disabled students. 78.3% of the disabled students did not report using this service, and only 10.8% of disabled students did. The score for satisfaction with this service is close to, but just below 'satisfied' (mean score of 3.81; SD 1.23). In terms of the question about borrowing hearing aids in the questionnaire, although this assistive technology could be used for disabled students other than those who are hearing impaired, the question refers specifically to hearing impaired students. Therefore, it is likely that the most respondents to this question are hearing impaired students. In terms of providing special software services for visually impaired students, the proportion of respondents who use this

software may well be visually impaired students. However, the special software could be utilised by other disabled students, should they request it.

Table 4.11 Use of the DSS centre and Satisfaction towards Assistive technology services

<i>Assistive technology services</i>	Use of the DSS Centre				Satisfaction		
	Yes or No				towards the DSS Centre		
	Yes	(%)	No	(%)	Number	Mean	SD
Recording equipment	86	42.4	93	45.8	111	3.94	1.13
Borrowing hearing aids for hearing impaired students	7	3.5	109	53.7	112	3.95	1.13
Special software	22	10.8	159	78.3	117	3.81	1.23

Source: Author / Data Collected through my Online Survey

Table 4.12 demonstrates the use and satisfaction levels of the disabled students in the service area of accessible information services. This refers to information about supported learning services, such as that offered in the library. Respondents mostly used the guide to the library at the university. 47.8% did not report having used this service, however, 39.9% had. The mean score for this service shows that the satisfaction level of respondents is close to 'satisfied' (mean score of 3.87; SD 1.16). The majority of respondents did not use the copies of overhead projector/lecture notes service, the majority of the respondents did not use this service (73.4%). In fact, only 14.8% of the respondents used this service. User satisfaction with this service had a mean score of 3.94 (SD 1.16), which may be interpreted as 'satisfied'. The third service in this area relates to information in Braille or large sized print for visually impaired students. 14.3% of the disabled students used this service. However, 73.9% did not use this service, presumably because they did not need it. The satisfaction level in students using this service showed a mean score of 3.93 (SD 1.16), thus close to 'satisfied'. The fourth service involved the provision of information about learning or news supplied in alternative formats; for example, a text file, .doc, .pdf, and audio files. 73.9% of the disabled students did not use this service. However; nearly one in ten of the sample (13.8%)

used it. Students' satisfaction with this service showed a mean score of 3.85 (SD 1.22), which is again close to 'satisfied'.

Table 4.12 Use of the DSS centre and Satisfaction towards Accessible Information Services

<i>Accessible information services</i>	Use of the DSS Centre				Satisfaction		
	Yes or No				towards the DSS Centre		
	Yes	(%)	No	(%)	Number	Mean	SD
Providing information about supporting learning (Library)	81	39.9	97	47.8	141	3.87	1.16
Copies of overheads/lecture notes	30	14.8	149	73.4	109	3.94	1.16
Information about learning or news supplied on alternative format	28	13.8	150	73.9	116	3.85	1.22
Information in Braille or large size print for visually impaired students	29	14.3	150	73.9	110	3.93	1.16

Source: Author / Data Collected through my Online Survey

Table 4.13 demonstrates the use and satisfaction levels of the disabled students in the three service areas of training skills services. These services provide various activities for disabled students, such as sport and recreational activities, both social and cultural, and community services. Over half (59.1%) of the respondents received these support services from the DSS centre. User satisfaction with this service had a mean score of 3.95 (SD 1.11), which interprets as 'satisfied'. In terms of the orientation training on the university campus and surrounding area, over half of the sample (52.2%) used this service; however, 36.5% did not. Students showed satisfaction with this service, providing a mean score of 3.91 (SD 1.17), which is close to 'satisfied'. Nearly half of the sample (46.8%) used tutorials for some modules, while 41.4% of the sample did not use these. The two groups are slightly equal in proportion. The students' satisfaction with this service showed a mean score of 4.05 (SD 1.10), which interprets as 'satisfied'. The third service in this area relates to counselling for learning and assignments. 45.8% of the disabled students used this service. However, 42.4% did not. The two groups are roughly equivalent in proportion. User satisfaction with this service had a mean score of 4.13 (SD 1.09), which is close to 'satisfied'.

Table 4.13 Use of the DSS centre and Satisfaction towards Training Skills Services

<i>Training skills services</i>	Use of the DSS Centre				Satisfaction		
	Yes	Yes or No (%)	No	(%)	towards the DSS Centre Number	Mean	SD
Orientation training at the university campus and surrounding area	106	52.2	74	36.5	116	3.91	1.17
Social skills training or activities	120	59.1	57	28.1	136	3.95	1.11
Tutorials for some modules	95	46.8	84	41.4	133	4.05	1.10
Counselling for learning, assignments	93	45.8	86	42.4	146	4.13	1.09

Source: Author / Data Collected through my Online Survey

Table 4.14 demonstrates the use and satisfaction levels of the disabled students in the service area of health services. This service area includes the provision of transportation through the DSS centre for hospital or rehabilitation centre journeys. 45.8% of the respondents used it while 42.9% did not. The mean score of this service shows that the satisfaction level of respondents is close to 'satisfied' (mean score of 3.84; SD 1.15).

The second service in this area relates to the provision of information for medical rehabilitation. Nearly three quarters of the sample (74.9%) did not use this service, and only 13.8% of disabled students did. User satisfaction with this service was the highest, with a mean score of 3.78 (SD 1.18), which is close to 'satisfied'.

Table 4.14 Use the DSS centre and Satisfaction towards Health Services

<i>Health Services and well-being services</i>	Use of the DSS Centre				Satisfaction towards the DSS Centre		
	Yes	Yes or No (%)	No	(%)	Number	Mean	SD
Providing information for medical rehabilitation	28	13.8	152	74.9	112	3.78	1.19
Providing transportation for visits to hospitals or rehabilitation centres	93	45.8	87	42.9	109	3.84	1.15

Source: Author / Data Collected through my Online Survey

Table 4.15 demonstrates the use and satisfaction levels of the disabled students in the service area of transportation services. The DSS centre provides buses and car services for disabled students on the campus. Around two thirds of the sample (61.1%) had experienced using this service; however, over a quarter of the sample (28.1%) did not use it. The mean score of this service shows that the satisfaction level of respondents is close to 'satisfied' (mean score of 3.74; SD 1.20).

Regarding the disability parking service, more than three quarters of the sample (71.9%) did not use it, while only 16.7% of the disabled students did. The satisfaction of the disabled students with this service provided a mean score of 3.81 (SD 1.18), which is close to 'satisfied'.

Table 4.15 Use of the DSS centre and Satisfaction towards Transportation Services

<i>Transportation services</i>	Use of the DSS Centre				Satisfaction towards the DSS Centre		
	Yes	Yes or No (%)	No	(%)	Number	Mean	SD
Buses and cars	124	61.1	57	28.1	109	3.74	1.20
Disability parking	34	16.7	146	71.9	122	3.81	1.18

Source: Author / Data Collected through my Online Survey

Table 4.16 demonstrates the use and satisfaction levels of the disabled students in the service area of assistant services. Liaison with the staff at the DSS centre is a service provided for this area, which the respondents used the most (69.5%), while only 15.3% did not use it. User satisfaction with this service was the highest, with a mean score of 4.02 (SD 1.11), which interprets as 'satisfied'. The second service is that of an interpreter for TSL for hearing impaired students. Over a quarter of the sample (28.6%) used it, while 61.1% of the sample did not use this service. The mean score of this service shows that the satisfaction level of respondents is close to 'satisfied' (mean score of 3.94; SD 1.12). As this service is specific for those with hearing impairments, the percentage of users will be low. It is possible that the respondents to this question were hearing impaired students, because the proportion of respondents who were hearing impaired students was 32% (See more detail in Table 4.1). Only 28.6% of the respondents used it, thus it could be possible that some hearing impaired students do not use this service for their own reason. Perhaps they do not need it and the interpreter of the DSS centre is not seen to be sufficient. Regarding the peer support service of the DSS centre, only 14.8% of the disabled students used this service, while 72.4% thereof did not service. User satisfaction with this service was the highest, with a mean score of 3.91 (SD 1.16), which is close to 'satisfied'. The last service in this area relates to a note-taking service. Nearly three quarters (74.4%) of the sample used it and 13.3% did not. The mean score of this service shows a 4.01 satisfaction level which is interpretable as 'satisfied'.

Table 4.16 Use of the DSS centre and Satisfaction towards Assistant Services

<i>Assistant services</i>	Use of the DSS Centre				Satisfaction		
	Yes		No		towards the DSS Centre		
	Yes	(%)	No	(%)	Number	Mean	SD
Staff of the DSS centre	141	69.5	31	15.3	137	4.02	1.09
Interpreter for TSL	58	28.6	124	61.1	106	3.94	1.12
Peer support	30	14.8	147	72.4	124	3.91	1.16
A note-taker	27	13.3	151	74.4	124	4.01	1.15

Source: Author / Data Collected through My Online Survey

Table 4.17 demonstrates the use and satisfaction levels of the disabled students in the service area of examination support services. These services include the provision of suitable exam places and services for disabled students, such as providing exams on the ground floor in the DSS centre building, most of which must be accessible to disabled students. 56.7% of disabled students used this service, whereas a third of the sample (31.5%) did not. The mean score of this service shows that the satisfaction level of respondents could be interpreted as 'satisfied' (mean score of 4.15; SD 1.00).

In terms of the provision of assistance for examination services, it can be seen that most respondents did not use the services of a reading assistant, a writing assistant, or a computer or laptop (70.9%), whereas nearly a fifth of the sample 16.7% did use this service. User satisfaction with this service was the highest, with a mean score of 4.08 (SD 1.15), which is close to 'satisfied'. The last service in this area relates to the provision of extra time in examinations. The majority of the sample (74.4%) did not use this service, while around a tenth of the sample (13.8%) did. Students also showed satisfaction with this service, providing a mean score of 4.00 (SD 1.17), which interprets as 'satisfied'.

Table 4.17 Use of the DSS centre and Satisfaction towards Examination Support Services

<i>Examination support services</i>	Use of the DSS Centre				Satisfaction		
	Yes	Yes or No (%)	No	(%)	Number	Mean	SD
Provision of extra time in examinations	28	13.8	151	74.4	109	4.00	1.07
Provision of suitable exam places	115	56.7	64	31.5	117	4.15	1.00
Provision of assistances for examination	34	16.7	144	70.9	118	4.08	1.15

Source: Author / Data Collected through my Online Survey

Table 4.18 demonstrates the use and satisfaction levels of the disabled students in the service area of job counselling services. Respondents used the careers advice and guidance services the most: more than half of the sample specifically (57.1%) used it, while 31.0% did not. The mean score of this service shows that the satisfaction level of respondents is close to 'satisfied' (mean score of 4.01; SD 1.10).

In terms of the information services, job vacancies, and finding employment services, 46.3% of the sample used these services, while 42.4% did not. The two groups are equivalent. Students also showed satisfaction with this service, providing a mean score of 4.02 (SD 1.16), which is close to 'satisfied'. In terms of the career search service, 45.3% of disabled students used this service, whereas 42.9% did not. User satisfaction with this service was a mean score of 4.04 (SD 1.15), which interprets as 'satisfied'.

The last service in this area is the career planning service, concerning by which information about vocational training and postgraduate study is provided. 42.9% of disabled students used this service, but 45.8% do not. The satisfaction of the disabled students with this service provided a mean score of 4.02 (SD 1.16), which is close to 'satisfied'.

Table 4.18 Use of the DSS centre and Satisfaction towards Job Counselling Services

<i>Job counselling service</i>	Use of the DSS Centre				Satisfaction		
	Yes	Yes or No (%)	No	(%)	towards the DSS Centre	Mean	SD
Careers advice and guidance	116	57.1	63	31.0	123	4.01	1.10
Career searching	92	45.3	87	42.9	113	4.04	1.15
Career planning	87	42.9	93	45.8	122	4.05	1.17
Information, job vacancies & finding employment	94	46.3	86	42.4	115	4.02	1.16

Source: Author / Data Collected through my Online Survey

In summary, the most popular of the ten DSS centre service areas among the respondents was the new student orientation and registration services (sub-services include induction, registration, and enrolment services). Meanwhile, the least popular DSS centre service area was borrowing hearing aids from assistive technology services. The survey found that the overall mean score of the students' satisfaction with the ten DSS service areas was 3.95. This score shows that the students, on average, were close to being satisfied with the ten DSS service areas; therefore, it can be interpreted that the students are satisfied with the ten DSS service areas (see Appendix K: Use of the DSS centre and Satisfaction towards all of services).

The final issue under this section is the obstacles to accessing the services of the DSS centre. Table 4.19 shows that the students experienced most problems with job counselling services (29.6%). The majority of the respondents were undergraduate disabled students between their third and fourth years at university and some students who were beyond their fourth year of study. These students are in the final stage of their HE as they must experience internship before graduating from their undergraduate degree. Table 4.18 shows that half of the sample did not use job counselling services. Therefore, it is possible that this service area may not be provided by the DSS centre. 19.2% of the respondents had problems with transportation services. The respondents' comments on this included:

“Although the university has provided transportation for students at the large university campus, I think the minibus did not support students using wheelchairs as it was not accessible to my wheelchair.”

And:

“I think transportation for students was not enough. Non-disabled students and disabled students need to catch the university minibus during rush hour.”

And:

“I need transportation on campus as I must study different modules on two campuses. Sometimes I have to study on two campuses on the same day. I have to travel by taxi and pay for that taxi. That is so expensive. If the university and the DSS centre helped me with this problem I could save travel costs.”

From these comments, it is clear that the DSS centre's provision of transportation support appears not to be meeting the needs of disabled students. Furthermore, some of the students face problems in terms of securing suitable transportation from the university and the DSS centre.

4.9% of respondents also experienced problems with induction, registration, and enrolment services. Other obstacles experienced by the respondents include the assistant service area where the number of staff was not sufficient to make adequate provision for disabled students. For example, almost 10% of the sample felt that there should be an increase in the number of interpreters for TSL in lecture classes. Students also felt as though more staff members were needed in the DSS centre. In terms of accommodation services, those students who faced problems in securing accommodation and needed support in this regard from the DSS centre. In terms of accessible information services, some visually impaired students needed information in Braille from the DSS centre.

Moreover, the respondents commented that when using the counselling services of the DSS centre, they encountered problems, as the staff of the DSS centre did not provide enough information and the information was not clear, for example, the information on the internship process, training courses, and applying for internship. Consequently, respondents felt confused as some of them were hearing-impaired students, so they needed to have clear information. The respondents felt that DSS centres have problems with providing assistive technology services, for example, there is a lack of insufficient supply of some types of assistive technology for visually impaired students. Some respondents commented on the limited provision of special software for visually impaired students, which impacted on their learning in class. Moreover, some students with low vision faced problems due to the lack of support regarding special software and special devices in the library, so they had to resort to finding information in the library via peers. Furthermore, some respondents commented that due to the lack of staff in the DSS centres, they needed to wait on the line a long time. Hearing-impaired students felt that DSS centres lack TSL interpreters in class, while other students would like to participate

in some activities at university, but the interpreter could not support their need as the interpreter supported learning in class.

Table 4.19 The Obstacles to Service Access

Obstacles to service access in area of : (respondents to select more than one answer)	Number of Students	Percent
Introduction, registration and enrolment services	10	4.9
Accommodation services	13	6.4
Training skills services	23	11.3
Health services	18	8.9
Transportation services	39	19.2
Assistant services	16	7.9
Accessible information service	30	14.8
Assistive technology service	37	18.2
Examination support services	18	8.9
Job counselling services	60	29.6

Source: Author / Data Collected through my Online Survey

4.2.4 The importance, advantages, and disadvantages of the DSS centre

This section aims to address the importance of the DSS centre to the respondents and for other disabled students in HE, additionally; it covers the advantages and disadvantages of the DSS centre, and the suggestions of the respondents for improving DSS services.

4.2.4.1 The importance of the DSS Centre in your university and for Disabled students in HE

Table 4.20 demonstrates the importance of DSS for the respondents and for other disabled students which was specific to their university. It could divide the answer from the respondents into three groups. The first group, around two thirds of the sample, (67.5%) thought that the DSS centre in their university was very important. The second group, 17.2%, of the sample felt that this centre was relatively important, and the third, 0.5%, felt that this centre was not particularly important.

When asked about the importance of the DSS centre for disabled students in HE the majority of the sample (70.9%) felt that the DSS centre was very important for disabled students in HE institutions in Thailand. 12.8% of respondents felt the DSS centre was relatively important for disabled students in HE institutions in Thailand. However, a small fraction (1.5%) felt it was not important.

Table 4.20 The importance of the DSS Centre in your university and for disabled students in HE

The importance of the DSS Centre <u>in your university</u>	Number of Students	Percent
Very important	137	67.5
Quite important	35	17.2
Not very important	1	.5
Not at all important	-	-
The importance of the DSS centre <u>for disabled students in HE</u>		
Very important	144	70.9
Quite important	26	12.8
Not very important	3	1.5
Not at all important	-	-

Source: Author / Data Collected through my Online Survey

The respondents agreed that the DSS centre in their university is important for them and other disabled students. The following respondents' comments explain the benefits of the DSS centre and its perceived impression by students:

“Disabled people should receive the same education as non-disabled people; therefore, studying in HE is a very good opportunity for disabled people and universities should help these people achieve their academic goals. The DSS centre seems to be one way of helping disabled people at university.”

and

“Disabled people must receive education and improve many skills when they study at university and the DSS centre needs to help disabled students at university.”

4.2.4.2 The Advantages and Disadvantages of the DSS Centre

In terms of the advantages and disadvantages of the DSS centre, the respondents' reported responses were various. The primary benefit of the DSS centre services was considered to be assisting disabled students in the process of receiving

financial support from the university. The secondary benefits of the DSS centre included support towards social life at university. The respondents commented that the DSS centre helped them find accommodation and helped them make new friends. Some respondents attended the social activities of the DSS centre.

Moreover, the DSS centre secures confidentiality for disabled students. The respondents felt confident despite their disabilities. Their disabilities seem not to have been an obstacle to learning or meeting new people. One respondent commented that their DSS centre provided consultation services for them when they experience problems and that the staff there advised them in many situations, such as in learning and student life at university. Furthermore, the respondent felt that the DSS centre also provided information about disabled students to other divisions within the university framework. This is beneficial for disabled students as the university, faculty staff and teachers raise awareness of disabled students in university and provide suitable adjustments for disabled students. In addition, the DSS centre supports disabled students in academic and social life at university. Academic support includes assistance in classes, such as assistive technology, sign language interpreters, an adaptive environment, adaptive classes, tutorials, examination assistance, guiding for learning. For example, respondents stated:

“Disabled students must receive education and improve skills when learning at university. Therefore, the DSS centre is important for helping disabled students to achieve their goals in education and improve the skills that they need at university, such as sharing their needs with friends or the faculty, participating in university societies, expressing their ideas, communicating with other people, and organisational skills.”

“The DSS centre is beneficial to me as it helps and guides my learning at university.”

Finally, some disabled students focused on the overall quality of the services of the DSS centre and this seems to be positive. On the other hand, not all respondents felt thus and they commented that the DSS centre was not beneficial to its intended users and that they did not need DSS centre services.

4.2.4.3 The Need to Improve services of the DSS centre in university

Table 4.21 demonstrates student perceptions of the need to improve the services of the DSS centres in universities. The majority of the sample (76.8%) felt that the services of the DSS centre in their universities needed to be improved, while 6.9% did not feel this way. The disabled students who did not feel they needed improvement stated that the DSS centres of their universities have good services and students were satisfied with these. Some students required improvements to the DSS centres in the following areas: finding accommodation, assistive technology, general technology, facilities for disabled students, increasing the number of staff at the DSS centre, job counselling services, raising awareness of people with disabilities and their conditions, and developing the potential of the DSS centre service.

Table 4.21 The need to improve Services of the DSS centre in University

The need to improve services of the DSS centre in university	Number of students	Percent
Yes	156	76.8
No	14	6.9
Don't know	-	-
No response	33	16.3
Total	203	100

Source: Author / Data Collected through my Online Survey

4.3 Interview Results

This section reports the findings of the second phase of the research: four disabled students were interviewed. The interviewees comprise Peter, Mary, Nancy and Rita who were studying in HE at the time. Interviewing focused on the interviewees' perspectives and experiences with their DSS centre. The qualitative results will be presented in two parts. The history of the four students will be presented in the first section and a comparison of the four participants will be explored in the second. In order to clearly present the interviews, a summary of the participants' information is presented in table 4.21 with pseudonyms used to protect their anonymity.

Table 4.22 Summary participant information

* Pseudonyms are used to protect anonymity

Name*	Type of disability	Type of study	University*	Type of university (Open or non-open University)	Method of Application	Disclosure of disability	First use of DSS centre services
Peter	Physically impaired disability	Full time Undergraduate	Ayotaya University	Open university, distance learning	Apply by post	In application form	Middle of the first term
Mary	Physically impaired disability	Full time Undergraduate	Bangsiam University	Open university, distance learning and compulsory attendance of some classes	Apply by internet	In person at the examination 1 term	Near the end of the first term
Nancy	Visually impaired disability	Part time Postgraduate	Chiangburi University	Non-open university, compulsorily attending some classes	Apply in person	In person in Submitting application form	None
Rita	Visually impaired disability	Full time Undergraduate	Danthai University	Non-open university, compulsory attending some classes	Apply in person	In person by sending application form	At point of application, before starting the first term

4.3.1 The interviews of these four students

This section presents the stories of Peter, Mary, Nancy and Rita.

4.3.1.1 Participant 1: Peter

Demographic profile

Peter is a physically disabled student. He had an accident when he was eighteen years old. Since then he has been paraplegic but he can lift his hands and use a wheelchair. After he graduated from Yotnakorn School, he works in information technology field. He is an undergraduate student, studying a subject in Social Science at Ayotaya University.

Before studying at university

He decided to study at university because he wanted to open future working opportunities by attaining a Bachelor's degree. He chose Ayotaya University as it has a learning system different from that of other universities in Thailand in that learners can read at home then take an exam at the end of the term. In addition, examinations are conducted on weekends, so Ayotaya University's learning system seemed suitable for his needs: he could work and learn, manage the time for reading books and attend exams at his convenience. Moreover, students of Ayotaya University do not go to class everyday, which addressed Peter's concerns about access to university buildings, as there are many stairs, and he might have found it too difficult to attend. Three years after his accident, Peter moved to Yotnakorn province to study at Yotnakorn School; this school is a special school for those with physical disabilities. Some teachers and alumni of Yotnakorn School had studied at Ayotaya University, so they recommended it to him after he graduated. Although he knew about Ayotaya University's learning system and examinations from many people, there was no mention of the DSS centre from teachers and alumni, so Peter had been unaware of this centre before he came to study at there. Thus, his decision to study in this university was not related to university support services.

Studying at university

Peter started the process of applying for Ayotaya University by purchasing an application form at a convenience store. In the application, there was a section asking about disabilities. He described himself as 'physically disabled', which interprets as paralysis, requiring the use of a manual wheelchair. He paid the fee and sent the application form by post to Ayotaya University. A short time later, the university sent his student card and hard-copy study materials (mostly textbooks and workbooks) by post.

In the middle of the first term, the DSS centre of Ayotaya University staff called Peter and introduced the centre. He had just learned about this DSS centre. The staff asked him about his disability so they could help prepare him for the examination. He told them he was physically disabled and requested a ramp or a room on the ground floor for the exam. The first services that the DSS centre provided for him started with an examination.

Peter was satisfied with the level of examination service support given by the DSS centre of Ayotaya University. He said that when he arrived at the exam centre, there were staff members there to help him to lift his wheelchair out of his motorcycle (Motorcycle adaptations for Bikers with disabilities); a staff member also pushed his wheelchair up the ramp and into the examination room. In addition, the staff informed him of the location of the toilet, and said that if he needed to use it, he could let one of the staff know. This is because the toilet is inaccessible for wheelchairs due to steps. Peter thinks that the staff at the exam centre might have been part-time staff and not from the DSS centre. However, these part-time staff members seemed to understand how to support disabled students, and the services the staff provided were good.

Peter said that after he talked with the staff of the DSS centre about the examination, he often called the DSS centre when he had problems. For him, the services of the centre are 'good', the staff are 'friendly', they help when he needs an answer, they ask him about his studies and always cheer him up. In short, he is

satisfied with the service at the moment and he has experienced a good relationship between staff and disabled students. Moreover, he added:

‘Separating the DSS centre from general student services is better than offering mixed services to all students. This is because the staff of the DSS centre of my university understands the conditions and problems of disabled students, such as preparing a ramp for wheelchair users or reading for blind students in an exam. Staff from the general student services centre might not know or understand and might not provide suitable services for disabled students due to lack of experience.’

In the second term, Peter received financial support for disabled students in HE from Ayotaya University. At the beginning, he had information about financial support for disabled students from the brochures that were sent to him with his books. However, he was not sure about some information regarding the application process, so he called the DSS centre to ask for details. The staff at the DSS centre gave him the details for applying for this support. Since the second term, he had received financial aid for disabled students, namely his tuition fees through his bank account. He felt that this support is good for those who are financially insecure because there are many people who want to study at university but might not have enough money. Thus, financial support from the Government or free tuition and fees for disabled students at a university could help disabled learners.

On the other hand, financial support for disabled learners in universities may have a weakness, as there are some disabled students in remote areas. These students’ might face problems from poor correspondence with Ayotaya University and might not send their application forms within the deadline. In addition, in his view:

‘The general staff of Ayotaya University or the DSS centre of the University could visit all disabled students at their homes and talk face to face, ensuring Ayotaya University understood disabled students’ situations and supports their learning. The staff of the DSS centre could learn about the issues of disabled students and could guide them to the right departments to address those problems.’

Moreover, Peter felt that universities or the government should offer financial support for travelling or living costs, as the cost of travelling and accommodation

for physically disabled students tends to be higher than for non-disabled students. In addition, the DSS centre should develop an accommodation-finding service for disabled students, especially physically disabled students. He thinks that many physically disabled students want to study in HE but have problems travelling there, after which they need support to find suitable accommodation.

As an example, Ayotaya University offers tutorials for students and sends them timetables by post. If students would like to attend, they can fill in the form and send it back to Ayotaya University. He would like to attend, but travel to the tutorial locations is difficult: 40-50 kilometres is too far for him, and each trip involves costs which he can ill afford. Travel support funding might help Peter attend tutorials within his budget. In his view, in a tutorial, he would meet face-to-face with teachers, who would explain the material better than he could understand it by reading from a book. As a result, he might score higher in exams. However, as things stand Peter misses the opportunity to attend tutorials due to the cost.

Another problem related to the scores for Peter's exam is the delay in receiving textbooks and workbooks for some modules from Ayotaya University. This situation has affected his examinations, as he has not had enough time to read all the books to prepare for the exams. He was not satisfied with the level of service support given by Ayotaya University in sending material. He has even spoken to the DSS centre about the problem with delays in receiving books, but the centre could not address this problem, as it is not part of the DSS services. Peter therefore attempted to address the problem himself. He used Ayotaya University's online message board service, which is designed for all Ayotaya University students. Students can post any questions on the board and share any answers or ideas. Peter used this board for addressing his problem about the delay in receiving books. He borrowed the books from someone through this board. Some seniors or current students gave some books and past exam papers to him. Peter called this situation 'peer-to-peer' support. He is very satisfied with this method as an option for addressing problems, and he can make new friends with people on the board. He explained:

'Learning at Ayotaya University is different from other universities, as students from those universities attend classes, so making a new friend seems to be easy. On the other hand, students of Ayotaya University do not attend classes, so it is not easy to have friends. Finding a new friend through the web board is a good option for addressing learning alone.'

Furthermore, Peter has never had a chance to meet teachers or staff from Ayotaya University or the DSS Centre. He would like to be able to meet them face-to-face. This is because meeting face-to-face may provide the staff with a greater understanding of the learners' specific situations. Moreover, Peter said that the learning system at Ayotaya University does not offer internships. This is different from other open universities in Thailand. Thai students in their last year in most universities are offered an internship before graduating. He feels that Ayotaya University should focus more on internships for disabled students because they could improve many skills before entering work. In addition, Ayotaya University should pay attention to finding employment for disabled students by offering career-finding services or arranging for companies to interview disabled students who are near the completion of their studies. Thus, these hiring agencies could meet them, and disabled people could have wider opportunities in the job market.

Peter said that before using the DSS centre in his university, he thought it was a centre for charity, or a health care centre for people with disabilities, providing guidance about rights, financial support and support information about learning in Ayotaya University. However, after using the centre, he knows more about it; it is a special department providing services for disabled students. Moreover, he feels that the DSS centre is important for him and for other disabled students in HE, as students can use the services provided when they have a problem with their courses or learning.

Conclusion

To sum up, Peter did not know about the DSS centre before entering Ayotaya University. Therefore, Peter's decision to learn at the university was not related to the DSS centre for disabled students of that university. He chose to study there

because of the future career opportunities and he preferred the learning system at Ayotaya University as it has an “open university” method of distance learning for students. Students do not attend classes at university and they have tutorials and examinations at weekends. These features seem to meet Peter’s needs as his decision to learn in HE was based on the fact that he wanted to work and learn at the same time. Therefore, Ayotaya University was suitable for this choice because the distance learning system does not affect his work on weekdays.

The DSS centre of Ayotaya University provides services for disabled students in many ways; for example, by advice about the disclosure of disabilities in the application form, by supporting examinations and by aiding financial support process for disabled students. There is a section for applicants to disclose their disabilities in the application form, which will be used in conjunction with to his divisions or departments to prepare support services for disabled students, especially during examinations. This is because the university wishes to make assessment affordable and convenient for students, therefore, services for disabled students are of an importance for relevant departments, such as the DSS centre. In Peter’s story, he disclosed his disability on the form and he received assistance from staff at the DSS centre in the first term of study in terms of preparing support in examinations. This was the first service that the DSS centre provided to Peter and he seems satisfied by this service, based on his comments in the interview. The second service that he received was financial support for disabled students. The DSS centre provided Peter with information about the financial support application process in the second term. He appears to be satisfied by the services given by the DSS centre staff.

Although the nature of the distance learning education system meant that disabled students never had the opportunity to meet the DSS centre staff and there were some problems with which the DSS centre could not support him, he appears on the whole to be satisfied by the services given. Moreover, he has a good relationship with the staff, and hopes to meet them face-to-face. Eventually, Peter wants to make others aware of the importance of the DSS centre in HE for other disabled students. In addition, he suggests that the DSS centre of Ayotaya

University should be developed in terms of assisting disabled students to find internships and employment.

4.3.1.2 Participant 2: Mary

Demographic profile

Mary is a physically disabled, final-year undergraduate student studying Humanities at Bangsiam University. Mary has used a wheelchair since she was young. She graduated from non-formal education in secondary school before applying to study at Bangsiam University. Her reasons for choosing to study at this university were not related to university support services. Mary said that she chose this university because her family members pointed out that learning at Bangsiam University meant she did not need to attend classes every day and that Humanities was an interesting subject and a suitable field for studying by herself.

Before studying at university

Mary applied online to Bangsiam University through its website. The university notified her by letter about completing the application process. The letter gave details about when to collect her student card and other documents. These documents had to be collected at the university only. She can't remember whether the form asked applicants about whether they had any disabilities. Mary said that it is possible that in the first term she did everything online, so staff didn't know about her disability.

Studying at the University

Mary received her first experience of service from the DSS centre in the first-term examination. It seems that the centre didn't know about her disability at the beginning of her course because she had registered online. The service in the exam was a general one for all disabled students, such as holding the exam in a special room for them, a room with no steps and easy access to a toilet for disabled students. However, when the DSS staff asked Mary about her special needs in the exam, she requested some help with writing her answers down on the

answer sheets because there were many items in the question paper and she has problems with her hands.

Mary appeared satisfied with the level of service support in the exam given by the DSS centre since she stated:

‘I am very satisfied with examination services from the DSS centre. This centre services me every term. Staff kept details of my needs in the first exam and provide service for me. I do not need to tell them again about providing help in the exam. In addition, the centre has provided an accessible room for wheelchair students. I do not worry about problems accessing the building.’

In the second term Mary learned more about the DSS centre through the Division of Student Affairs (DSA). This division told her there was a registration service for disabled students at the DSS centre as the process of registration is difficult for popular modules, with many students wanting to register in each module. Therefore, it was convenient for Mary if the DSS centre could help her in registering. After receiving this help from the centre, she was satisfied with the level of service because it made it simpler for her and she did not need to be concerned with non-disabled students gaining an advantage.

Furthermore, the DSA told Mary about financial support for disabled students from Bangsiam University, and that applications have to go through the DSS centre. Mary then applied for financial support and received it to cover her fees. Payments are deposited into her bank account every term since the second term. In her view, financial support for disabled students is of great benefit for students who may have financial difficulties. However, she thinks that this support should be offered to postgraduate disabled students also. There are some disabled students, who would like to study at postgraduate level. Currently, it is only offered to undergraduate disabled students. However, while appreciating the service, she appears not to be satisfied with the process of applying for financial support from her university. This is because disabled students need to fill in a form every term and if the form has any missing information they might not receive any support during that term.

Mary spoke about the issue of accessing information at Bangsiam University. The university disseminates online information such as news, exam timetables and registration information, as well as information on student activities. This makes it easy to access information and means she does not need to go to the university herself. In addition, the DSS uses a Line programme, which is the application for smart phones which keeps disabled students informed and updated. This information includes specific services held by the centre, for example, providing activities at the centre for disabled students or highlighting those activities at Bangsiam University that are suitable for disabled students to join. In addition, students can ask questions about learning, timetables for exams and activities at the DSS centre. Mary thinks that using this programme is convenient and fast. When she asks questions she quickly gets answers from staff at the DSS centre or from disabled friends.

Moreover, the DSS centre provides computers for disabled students for searching for information and registering online. Mary thinks that this is useful for disabled students because it means they do not need to compete for computers with non-disabled students. Additionally, most buildings in Bangsiam University are not readily accessible for wheelchair users. Therefore, providing computers in this centre is more convenient for her. Furthermore, the DSS centre has a book corner for students, which provides some books in social science and humanities, although there are only a few books that she finds interesting.

In the third year, Mary needed to attend lecture classes because she couldn't pass the exam after attempting to read books by herself. She had problems with travelling to Bangsiam University because she lives with her family and it takes about two hours each way to the university by car. She was interested in lecture classes in some modules but these were held in the early morning. She could not get there on time so she decided not to attend. As she didn't have any options for solving the problem, she needed to read books by herself. Mary explained:

'I was sad because I could not attend that lecture class. One day I would like to live in accommodation near the university. If it is possible, I would like the DSS centre of my university to support disabled students in finding suitable accommodation.

They might not rent the accommodation for a long time, but students might rent the accommodation for a short time. In my case, I would like to live near the university for my module class for five days only. The DSS could support disabled students in this point because there are some disabled students who have problems travelling to university.'

Another point Mary made relates to accessing buildings at Bangsiam University. Most buildings at the university are not accessible to wheelchair users, and there are no ramps or lifts. She said that in her first year she got a questionnaire from the DSS centre asking about the needs of wheelchair students, such as lifts and ramps. The DSS said that it would like to use the information to develop a more wheelchair-accessible environment at the university. However, in her four years of study, Mary has not noticed any improvement in wheelchair access. Mary is not satisfied with how the DSS has addressed this problem. She said:

'The DSS Centre asked me, but in all four years of my study there are many buildings that still have stairs only, and I face a problem when I need to study at that building. I often addressed problems of accessing a building by myself, for example my parents need to lift my wheelchair if that building has only stairs.'

Moreover, Mary felt that the university does not pay attention to developing an environment for disabled students as the DSS centre or university does not provide ramps, lifts or toilets to all buildings to service wheelchair-bound students. Mary said that she understands the limitations on the DSS centre. It can't action everything and needs to follow university policies. Moreover, it might not have the budget to build accessible facilities for disabled students.

Mary mentioned a further problem with the DSS centre relating to the number of staff in the centre. It seems there are not enough to service disabled students. Sometimes she waits many hours because the staff members are servicing another disabled student, and some services are only for visually disabled students. She suggested that the university should increase the number of staff in the centre if possible. Moreover, Mary thinks that staff should develop other skills in addition to helping disabled students register. She said she asked some questions about careers or postgraduate courses, but staff did not have any helpful

information. In addition, staff should improve their knowledge concerning disabled students and should be provided with suitable skills-based activities. She explained that the DSS centre has useful activities for disabled students, such as field trips and computer-training courses. She likes and participates in these activities, but some activities do not provide accessible vehicle or accommodation for students in a wheelchair; hence, Mary often cannot go on these trips. She said that staff could provide more assistance to disabled students in wheelchairs if they understood their limitations better.

Although Mary has identified some problems with the DSS centre, she still has a positive relationship with all staff of the centre and she goes to the centre every time she goes to the university. She asserted: "Compared with general staff, the DSS centre staff are more friendly, pay attention to service and provide useful activities to disabled students; these are features of this centre at my university". She believes that this centre could provide useful services for disabled students if the university had a better policy for promoting the centre.

Furthermore, Mary felt that the DSS centre in her university should have a service for final-year disabled students. This service should provide information about postgraduate courses and offer career guidance; for example, which universities have buildings that are accessible to disabled students, or which companies need or will hire disabled employees. She thinks that the DDS centre should have this information. In addition, the centre could have a database of companies that help disabled students find a job rather than for them to be left to find jobs on their own. Mary is likely to need this service. She asked the centre about postgraduate courses and careers, but the centre does not currently offer this sort of support for disabled students.

As a final point, Mary said that the DSS centre at her university is important for disabled students because there are many students in the university. The services from general staff did not seem to be sufficient to meet the needs of disabled students. She has experienced services from the general staff, which made her feel it was a waste time as there were many times when they forgot her issues. Therefore, she needed to restart communication with staff when requesting

services, which was time consuming. However, when she used the services of the DSS centre it seemed to be better for helping disabled students as the DSS centre differs from general services in having staff specifically dedicated to serving disabled students.

Conclusion

To conclude, learning about the DSS centre for Mary began in the second term after she found out about it from staff in the general division at Bangsiam University. As such, her choice to learn in this university was unrelated to the DSS centre. Moreover, Mary's reasons for choosing this university were because she received information from her family and the learning methods of Bangsiam University were compelling.

The first meeting between Mary and the DSS centre staff of Bangsiam University arrived late. This may relate to the application process of this university, which was online. This method provides prospective students with information about learning but does not provide information about the DSS centre. Therefore, Mary did not have a chance to use the services of this centre at the beginning and needed to address some of her problems in learning during the first term.

Since the first term, Mary encountered problems accessing classes; some classes are not accessible for wheelchair users as most of the buildings have steps. Although the DSS centre received information about the needs of wheelchair users from Mary by questionnaire, the development of disabled access to each building has not taken place. Mary has addressed the problems of access buildings in Bangsiam University herself, as the DSS centre could not facilitate this for her.

The first meeting between Mary and the DSS centre happened towards the end of the first term on the day of Mary's examination. The DSS centre staff moved Mary to an accessible exam room where the staff saw her using a wheelchair. However, this service appears to have been incomplete, as in the next exam Mary requested help from ascribe. Later, the DSS centre helped her apply for financial support for disabled students and assisted her in registration for her modules.

There are some services supplied by the DSS centre of Bangsiam University that Mary has been satisfied with, and she seems positive about the centre staff and their services, as previously mentioned. However, she stated that the DSS centre needed to improve its services for postgraduate learning and career guidance in the final year, because this centre does not currently offer such. In addition, skill development and an increase in the number of DSS centre staff would create helpful activities and services for disabled students in the future.

4.3.1.1 Participant 3: Nancy

Demographic Profile

Nancy is a visually disabled, first year postgraduate student in the Education faculty at Chiangburi University. She graduated with a bachelor's degree from the Faculty of Humanities and Social Sciences from Fahthai University. After graduating from here she works at a school for disabled students. Nancy knew about DSS in universities before beginning her studies at postgraduate as Fahthai University is one of 31 universities that have a DSS Centre in Thailand.

Before studying at postgraduate level

The DSS have been an important support for Nancy's learning since secondary school which was an inclusive school that collaborates with the Foundation for The Blind in Thailand (FBT) under the Royal Patronage of H.M. the Queen to provide support services for visually disabled students in the integrated program with regular schools; for example, Braille training, Orientation and Mobility training, access to Braille books and audio books, receiving scholarship. The foundation has provided this support since 1939; as such Nancy received the support framework in her learning in secondary school. The foundation has cooperated with universities in Thailand through their DSS centres in order to provide support services for visually disabled university students. Nancy explained that the information she received from the foundation about supported learning in universities and DSS for disabled students is familiar to visually disabled students. Moreover, visually disabled senior students have always informed junior students

about the support available so Nancy also found out about the DSS centres in some universities from senior students.

Receiving the information about the DSS centres in universities from the senior visually disabled students in secondary school guided Nancy's decisions regarding university selection for her undergraduate studies. The senior students told her about support available from the DSS centres in some universities that could increase her involvement in learning, such as providing notebooks and screen-reading programs, printing Braille sheets and providing readers in exams. Although Nancy took this information into account during her selection of a university for her undergraduate studies, she eventually chose Fahthai University, as she describes here:

'At undergraduate level, I wanted to study at a university that had a DSS centre, but that university had a limit on the number of disabled students, so I was unable to study there. I decided to study at Fahthai University near my home, but this university did not have a DSS centre.'

Thus, Nancy had to study without the assistance of a DSS centre. She feels that her undergraduate learning was very difficult, as the requirements of her disability, learning method and lifestyle at this level were different to that of secondary school. However, she addressed her learning situations at Fahthai University with the assistance of the Faculty of Humanities staff, teachers and peers. For example, the faculty staff and teachers at the university attempted to support her in her examinations by appointing somebody to read the exam questions for her. This support was provided after she requested it from her teachers. She believes this to be the only support service she received while studying at undergraduate level. Nancy explained that she also had good classmates: they helped her both in classes and in her life at Fahthai University, in such ways as guiding her to places in the university, reading books into a recording device and taking her to classes. In her view, this support helped her to achieve her undergraduate-level qualification. In her words:

'I feel that I passed through difficult situations when studying at undergraduate level, so these situations helped me to understand techniques of learning, how to address some problems and to request some help from teachers or friends.'

In her last year of the undergraduate programme at Fahthai University, Nancy was aware of the project about the creation of the DSS centre in this university, but it was not established until her graduation.

Studying at postgraduate level

At the beginning, Nancy did not want to study at postgraduate level due to problems with financial support and because she was too busy with her job. However, she received information about a specific subject in the Education faculty at Chiangburi University and became interested. This subject related to her fieldwork and her boss suggested that it could support her future career development. Moreover, three of her colleagues applied for the same postgraduate course. Thus, Nancy decided study at part-time postgraduate level at Chiangburi University, since it offered a reasonable opportunity to improve her career and she would be able to study with colleagues who could help in her studies. Furthermore, the course only had lectures on one day during the weekend, so it did not affect her work on weekdays.

Nancy described the process of applying for postgraduate study at Chiangburi University. The process started with sending in an application form, which was followed by an examination stage, followed by an interview. All three stages needed to be done in person at Chiangburi University. Nancy attended with friends and they helped her by reading the details on the application form and helping her to fill it in. Nancy remembered that the form did not ask about her disability.

Since Nancy began studying at Chianguburi University, she has not received any support from the DSS centre because she chose 'no-disclosure' regarding her disability.

'I was not sure about the connection between disclosure of a disability and receiving support from the DSS because the application form did not ask about my

disability. Therefore, the DSS Centre of Chiangburi University might not have known about my disability and so did not provide any support for me. I did not get any support at the beginning of my studies, such as help to register or an induction for new students.'

One of the situations Nancy described was related to not having any support from the DSS centre to access learning materials. Nancy received a text file that she could read online from only one teacher before class; other teachers did nothing in this regard. Most teachers provided her with the customary sheets or texts on paper in class, which were those received by her classmates. Nancy has enquired about the services of the centre but she did not have does not have the chance to meet the DSS staff face-to-face to ask her questions about learning support because she is a part-time student and only studying at weekends. The while the DSS centre, however, works on weekdays. Thus, Nancy needs resorted to asking faculty staff about support, but they did not have clear answers for her about services the centre could can provide for to postgraduate disabled students. Nancy addressed the problem of access to learning materials using her own methods; however, she was unable to solve them all on her own. She recorded lectures so she could listen to them at home and gave paper texts to volunteers for them to read and record for her. She still had problems with technical terms in the lectures, but at least it was one way of accessing information. This is how she explained it:

"If I get a text file before class, I can read it on my computer and if I don't understand I can ask the teacher in class. But for some classes I get sheets in the class and I need to listen to the lecturer. There are some points I don't understand, but I don't have chance to ask any questions, and most of the content in the sheets uses technical terms that I think it are hard to understand and can't imagine."

In addition, Nancy discussed her problems with her teachers; some teachers suggested that she create a Braille textbook herself, as they knew that she worked for an organisation related to blind people and her workplace had a Braille printer. Nancy thought that making a Braille textbook would be a difficult process and she would need to involve a large number of people, so it did not appear to be a solution. In her view, producing a Braille textbook or any learning materials is not

the duty of students: learning materials should be prepared by the faculty or the DSS centre of Chiangburi University. Furthermore, Nancy suggested that teachers should, if possible, be informed about disabled students in their classes, then the teachers could prepare additional support. For example, by giving a text file to blind students before the class, which they could read and prepare for, using a special computer programme. This is especially important for blind students, who need more time to read than general students.

Nancy has now completed her first term of postgraduate study but she has still not received information about services from the DSS centre of Chiangburi University. She asked the faculty staff about support from the centre. And they explained that, although Chiangburi University has a DSS centre, it may not be able to provide services to disabled students at postgraduate level and that if Nancy needed any help she should let the faculty staff know. Therefore, Nancy requested support in her examinations in the first term from her faculty. The faculty staff helped her by reading the exam questions out and by giving her the extra time she needed to complete the answers. Nancy has also received some help from her teachers and classmates with her learning. She believes that these things are important to help with her learning and had emphasised this before starting her postgraduate studies. However, she would like support from the DSS centre of Chiangburi University if it can be provided, as she is worried about her thesis stage; she does not know how she will access the documents and she will need more help than is given for other coursework.

Although Nancy did not have the chance to receive services from the DSS Centre in HE, she believes that the DSS Centre is not only important to blind students, but it is also important to all disabled students. This is because the DSS centre of each university has a policy to design services for them and the DSS centre staff of each university will have knowledge about these services; therefore, it seems to be more efficient to provide all of these services from the DSS centre of each university. In addition, she suggested that the DSS centre of each university should be separate from services for general students. Having a separate, special DSS centre for services for disabled students will make sure that staff have more time for the

students, and they will understand disabled students better than general university staff. From her experience at undergraduate level, at Fahthai University which, as previously stated, that at the time did not have a DSS centre at that time, Nancy needed to get services from the general university departments, and staff did not pay give enough attention to her requests and forgot her case.

Nancy feels that the DSS centre of each university should give sufficient information to disabled students. This is because there are several different types of disabled student, some students request the support for study that they are entitled to, while other students may not request any support as they may feel embarrassed and lack the confidence to for directly openly ask for support. These situations may have a negative impact on their learning. Therefore, if the DSS centre of each university introduces itself to students, and tells them where the centre is and what their responsibilities are for providing services to disabled students, then that should it might help to build understanding between the DSS centre and the students; the students will know about the DSS centre and what support they are entitled to, and they may be more likely to get or ask support from the centre. On the other hand, waiting for support only from the DSS centre of each university is not enough; therefore, disabled students should adopt their own method with regard to how they learn in university. For example, speaking to new friends, sharing problems and requesting some help from friends, teachers and staff. Nancy believes that nobody can understand the needs of disabled students if they do identify them to others.

Another point suggested by Nancy is that the DSS centres in Thai universities could improve their services in three key areas: by focusing the staff, their work and financial support. Firstly, the DSS centre should increase the number of staff and divide work between staff members; for example, through dividing work into different DSS centre services, into services for different types of disability and providing 'how to' services. Secondly, the government should pay attention to providing further financial support for the DSS centres as finance is an important factor with respect to the many things services the DSS centre has to offer. For example, there is a department and technology for Braille book production for

visually impaired students in some DSS centres, but there is a lack of technical staff as the DSS centres cannot afford do not have enough money to employ all the staff needed. Consequently, this department and its technology seems to be useless as it cannot fails to produce any material for visually impaired students.

With respect to her study life, Nancy concluded that DSS centre support is likely to be similar to a 'pyramid'. She explained:

“When I studied at secondary school I got much support from the DSS centre at my school; at the undergraduate level, the DSS centre of Fahthai University only became available in the last term of my studies; and during her postgraduate study I do not receive support from the DSS centre of Chiangburi University. I receive the support in my learning in this university from friends, teachers and staff of these has come to replace the support from the DSS centre of Chiangburi University.

Summary

To conclude, Nancy's story shows that the situation with the DSS centre services during her undergraduate studies relates to her choice to study at postgraduate level. As Nancy had experiences with DSS for visually impaired students in her secondary school, she was aware that some universities offer this service, so she used her experiences for selecting a university at undergraduate level. As such, she wanted to study at a university that had a DSS centre in order to gain support for her learning, but she was not able to study at any of those universities due to limitations on the number of disabled students taken. Eventually, Nancy undertook undergraduate study at Fahthai University, which did not have a DSS centre to support disabled students.

However, she needed to study at this university because it is close to her home. The four years in Fahthai University were difficult, as she received no support for her learning except that which she received from friends, the staff of her faculty and teachers. Support from these people at undergraduate level increased her understanding of learning without any support from the DSS centre. Accordingly, Nancy's decision to study at postgraduate level was not made based on services available from DSS centres. She chose to study at Chiangburi University for her

future career development and because colleagues that could support her learning decided to study the same subject.

At postgraduate level, Nancy has encountered learning difficulties, problems caused by a lack of support from the DSS centre of Chiangburi University. These problems included obtaining documents in a Braille format, support in examinations, participation in activities and access to learning materials, such as teachers not preparing text files for her before class. Nancy has not received any support in her learning since the first term and teachers do not understand her disability and her needs for learning support. An example of this is the suggestion made by some teachers for Nancy to address the problem by creating a Braille textbook in her office. Nancy holds the opinion that it is not her duty to do this and that the faculty of her subject or the DSS centre should have supported need to support her.

The problems of a lack of support in services provided by from the DSS centre for Nancy's learning at postgraduate level have two causes is occasioned for two reasons. Firstly, there is the lack of connection between departments, especially between the DSS centre and her faculty, which are the main departments that support her learning. The department of registration has Nancy's disability information from the application process, so sending her information to the faculty and the DSS centre could help them provide support for her learning. However, Nancy believes that these departments may not share her information. Secondly, the faculty staff told Nancy that the DSS centre only provides services to full-time, disabled undergraduate students. The lack of support from the DSS centre may relate to this policy.

Nancy feels that she needs to address the lack of learning support from the DSS centre at postgraduate level. She has requested some help from classmates, teachers, the faculty staff and others. This includes requesting text files from teachers, requesting the reading of exam question by friends and faculty staff and finding someone to read texts into recording devices. She believes that the support from these people is useful for her study, but she also needs particular services from the DSS centre of Chiangburi University.

Although Nancy has not received any support from the DSS centres since the start of her studies in HE, she is aware of the importance of these centres and wants to see further development of them in Thailand. Nancy's situation shows that while it is possible to learn without any support from DSS centres, she did need support from the centres for learning in HE. Moreover, in her view these centres are also essential to provide services for disabled students at all university. Therefore, she needs DSS centre in HE further developed in Thailand and included in all universities to help disabled students. It is important to introduce DSS centre for disabled students so that they can requested help for their learning activities. In addition, DSS centres should increase the number of staff for providing services for disabled students. However, because Nancy works for a disabled organisation she knows that the problems of increasing the number of staff in DSS centre in universities may relate to the lack of financial support from the government, which means they are not providing enough and good services for disabled students.

4.3.1.4 Participant 4: Rita

Demographic profile

Rita is blind undergraduate student; she is studying the subject of Education at Danthai University. She graduated from secondary school through the integrated program within mainstream school; this school cooperates with The Christian Foundation for the Blind in Thailand (CFBT). This foundation not only provides DSS for visually disabled students in primary and secondly school but also works with DSS centre in universities. For example, they provide education material for visually impaired students in Braille versions, provide education information for visually impaired students and offer financial support for disabled students. Therefore, it seems that she is familiar with the methods of DSS available from visually disabled students from her experiences in receiving DSS from CFBT with her secondary school.

Before undergraduate study

Before entering to university, Rita received information about the DSS centres in HE from the senior students and teachers of her old school. The teachers also suggested that she should choose a university that has a DSS centre, as it would support her studies. Although Danthai University has a DSS centre, most of the support it provides is for hearing-impaired students, with only a few services for vision-impaired students. As such, the teachers did not suggest Danthai University to Rita. The lack of services for blind students offered by the DSS centre and the lack of experience of its staff in dealing with blind students might make learning difficult. However, it seems that Rita was not interested in this advice; she decided to study at Danthai University because they offered her favourite subject. The first meeting between Rita and the DSS centre staff of Danthai University occurred during the application process. Although the process started by downloading the application form through the university website, the form had to be returned to the university.

Therefore, Rita had her first chance to meet the centre staff and they took her through the application process that day. She later met the staff again during the interview examination process. The meetings made Rita aware of the lack of services available for blind students in Danthai University and made her realise that she was the first blind student to study there. This did not change her mind, however, and she decided to study at the university. The reasons she gave for choosing this university were that her special favourite subject was available there and that the university is near her hometown. These reasons for studying at Danthai University were unrelated to the DSS centre. Rita said that:

‘My teachers told me many times about the benefits of the DSS centre and the difficulty of learning without a centre. However, I thought that I could learn if Danthai University does not have the centre. It seems I am a stubborn child but I have the determination and confidence that I can learn. The advice of my teachers could not change my mind: I wanted to study this subject at this university. Because of my determination, the teachers did not oppose my decision. Moreover, by studying here I could save money on travel costs when I visit my family.’

During undergraduate study

The first service Rita received from the DSS centre of Danthai University was to find accommodation. This service started after she passed the admission process of the university but before she began her studies. Teachers from of her old school, the Foundation and the DSS centre discussed her requirements for accommodation. The centre ensured her accommodation was near the university, where she lived for one year before moving to live with the DSS centre staff. Rita explained that:

‘The first year, I lived in private accommodation near University but needed to move out after the year. Therefore, the DSS centre staff needed to find new accommodation for me. Perhaps it was coincidence, but the staff could not find suitable accommodation and the centre had accommodation above its offices. Some of the centre staff and a low-vision student live in this accommodation. At the time that I needed to find new accommodation, one of the staff members moved out from this accommodation. Thus, I was able to live there and share a room with the centre staff.’

Rita was seems satisfied with about living in the DSS centre accommodation, as because it was easier financially she could can save money and it was also more convenient for travelling; this accommodation is in the Danthai University area, so travelling to class takes less time. Moreover, Rita said that living with the DSS centre staff had helped to create a good relationship with them, which made it easier for her to share any problems she encountered has with her studies and request any support from the DSS centre staff.

The second service Rita received from the DSS centre was guidance during module registration. Rita has received this service since the first term and she feels very satisfied with it. She explained that she did not know what modules she needed to study, so the DSS centre staff suggested they assist her through choosing her modules and the registration process. Each term, she has discussed further with the DSS centre staff before registration in order to analyse learning leaning methods and the support available for leaning. For example, some modules may not be suitable for blind students; the staff have conversations with

the teachers of each module as to how best they can help make their modules more accessible to blind students.

The third service from the DSS centre related to accessing information about learning services, that is, providing reading software to Rita. The Centre cooperated with the Foundation to receive this software and provided Rita with a computer. She was satisfied with this service as the software helped her greatly in reading texts. Additionally, she has become more confident in her studies as she can read any texts and do her coursework using this software. Moreover, Rita has spoken with the DSS centre staff to request text files from her teachers in advance of each module in order to use these files with the software. She said:

‘I like this software because it can help me read by myself. I feel that I can read anything that I want, and this software is like my eyes.’

There are some modules for which she needs to request the text files herself. There are some teachers who understand her condition and her need for text files, so they have given her.doc files. However, some teachers will not give her text files; Rita needs to address this problem by requesting the DSS centre staff to read the paper sheets she is given and record them for her.

Another service Rita has received from the DSS centre is financial support for disabled students in HE from Danthai University. The DSS centre staff helped her with the application process. After that, she received financial aid through her bank account. Rita said that the financial aid was valuable for her, as it supported her with her tuition fees so her parents do not have to pay the fees and she has more funds money for daily life. Moreover, Rita believes that financial aid for disabled students in HE is useful as disabled students may have more needs opportunities to learn at university.

Rita also received examination support since the first term. Staff at the DSS centre support her by reading exam questions to her as most of the exams are multiple choice tests. Rita chooses her answers and lets the staff write them in the answer paper. In addition, although she did not need extra time for most of her

examinations, for some she did, and she was able to request this from her teachers.

The DSS centre of Danthai University provides activities for disabled students every academic year and Rita likes to participate in these activities. She said that the DSS centre has many formal and informal activities for disabled students. Formal activities are created under the policies of Danthai University, such as the 'welcome new students day', traditional Thai ceremonies and sports events. Informal activities are provided directly by the DSS centre staff, such as the New Year party, field trips and shopping together. In her view:

'I like to participate in activities and I think that it is useful for disabled students to have a chance to make more friends, improve their social skills and gain new knowledge from activities. Although some activities are created by other divisions of Danthai University and do not have any support from the DSS centre staff, I still participate in them because I am aware of the benefits of activities. This is because I think I can make new friends or gain some help from others during these activities. I think the DSS centre supports my learning more than my participation in activities, but I understand the limited of services of the DSS centre, such as the low number of staff and the fact that they may not have enough time to help me in every activity.'

Regarding the advantages of participation in the informal activities of the DSS centre of Danthai University, Rita believes that these activities create a good relationship between her and the DSS centre staff. In particular, Rita lives in accommodation in the DSS centre building so she has more opportunities to participate in the activities of the centre. In addition, she is aware of collaborative activities between staff members and disabled students that lead to a good relationship, as they foster greater learning and understanding amongst one another.

Rita spoke about an internship before graduating that is compulsory for all students in her subject. There is discussion between the DSS centre staff and teachers about finding suitable methods and places for her disability as the internship needs to be undertaken outside the bounds of Danthai University. Although the internship

has to take place in the next year, the DSS centre has early plans for supporting it. Rita appears satisfied with by the attention of the centre and feels confident about the future. At first she was worried that her disability would be a barrier to her internship. Rita hopes that her internship will be without problems as it is important for her evaluation before graduation. She hopes to undertake an internship that might lead to opportunities for work in visual impairment schools. She does not pay much attention to the job finding service offered by the DSS centre as she has identified her aims for after graduation.

Rita's feelings about the learning support services from the DSS centre in Danthai University seem to be positive, with regard to both the staff and the services of the centre. However, the services may not be ideal for supporting learning: she is aware that this centre needs to improve its services in order to ensure support for all disabled students in Danthai University. In her view:

'I am the first blind student in Danthai University so services from the DSS centre may not be perfect, but based on my experience of the service of this centre, I would give 8–9 out of 10 for its excellent service. In addition, this centre has learned the services I have required, so it could improve based on its experiences of my situation in order to support new blind students in the future.'

Conclusion

In summary, Rita received services from the DSS centre of Danthai University before she studied at the university because of the connection between her old school and Danthai University. Working with such organisations becomes familiar to visually disabled students in secondary school, through following the guidance of teachers and senior students, so Rita was aware of what to expect when working with the DSS centre which supports disabled students in universities. However, her reason for studying at this university was the availability of her favourite subject, which is not one recognised by unrelated to the services of the DSS centre.

The DSS Centre of Danthai University has provided services to Rita that can be put in order by time received. Before studying at university, she received support in finding accommodation. This happened by working with the centre and her old

school in order to find suitable accommodation. During study, there were many services the centre supported her with from since her first term, such as guiding her through the registration process, providing special software for reading texts on a computer screen that helps her access information, assisting her with the application process for financial support for disabled students, supporting her during examinations by reading the questions and writing on in the answer sheet, supporting her in participation in Danthai University and the DSS centre activities, and helping her plan her internship.

There are many services from the DSS centre that have supported Rita's life in Danthai University and each service has an interesting detail. Firstly, the centre's services to Rita have utilised seem to have a plan as they have supported her in each step and the time of services appears to cover all her four-year course: before study, during study and the next academic year. Secondly, connections between the DSS centre, Rita's old school and the CFBT led to suitable services for Rita, as can be seen by the assistance with finding accommodation and providing special software. Thirdly, the DSS centre has provided various services to Rita that might encourage her to attend university in-person, rather than online courses such as those offered by Open Universities (Ayotaya University and Bangsiam University). Thus, it can be seen that services need to support university visits, classroom learning and participation in activities for disabled students. Finally, another interesting point relates to the relationship between Rita and the DSS centre staff, which was positive in her interview and may relate to living with the staff in the DSS centre accommodation and participating in the centre's activities. These situations are likely to provide a sound base for a positive relationship to build. Additionally, this relationship helped Rita indicate her requirements and speak to the staff when she needed support or faced problems.

4.3.2 The comparison across four interview participants

This section presents the four interviews (in the previous section) which show the participants' experiences regarding the DSS in HE and the DSS centre in each university. There are some differences and similarities among the four participants. Although it may be claimed that students may share similar difficulties in disability,

(Rita and Nancy were visually disabled whereas Peter and Mary were physically disabled), it should be noted that each student is was unique. The same type of disability might mean that they were likely to undergo similar experiences regarding their study and their adjustment but other conditions, such as their background and their university, would need to be taken into account. Therefore, the objective of this section is to compare and contrast the experiences of disabled students, particularly in relation to the service provisions and expectations of the DSS centres in their specific universities. There is limited information regarding Nancy here as her university had not yet provided services.

4.3.2.1 Awareness of the DSS Centre

From the sample of four disabled students, the study shows that the two visually disabled students, Nancy and Rita, had some experience of the DSS process before starting at university. Meanwhile, the two physically disabled students, Peter and Mary, did not know about the DSS centre until they entered their university. The reason why there was a difference in awareness of the DSS Centre between visually and physically disabled students may be related to the type of information they received from their Disability Foundations in Thailand and their senior disabled student fellows.

To begin with, the Disability Foundations in Thailand use different strategies to provide information about the DSS available to disabled students. As can be seen, both visually disabled students were aware of DSS centres before attending university as both had received support from the Foundation for the Blind in Thailand (FBT) and the Christian Foundation for the Blind in Thailand (CFBT) at secondary school. These foundations provide services at every level of education for the visually disabled, especially in secondary schools and HE establishments. Moreover, these foundations have worked to support students and to cooperate with many educational departments in supporting the learning of visually disabled students, along with providing information about how the assistance offered by the DSS centre can support students in their learning. Therefore, it is not surprising that the two visually disabled students knew about the DSS centres in their universities before enrolling. Other disability foundations in Thailand do not seem

to use this strategy. As such, Peter and Mary, who are physically disabled, did not receive support at secondary school and did not know about DSS centres until they entered HE. Finally, the experiences of senior disabled students regarding support for disabled students and the DSS centre contributed to the decision-making of Nancy, Rita and Peter with regard to their choice of university, and in helping them to understand various aspects of learning, such as the learning methods and the support available for disabled students, at each university.

4.3.2.2 University Choice

According to the four disabled students in this study, there were two distinct factors in their reasoning for choosing a university: interest in particular subjects and the format of the open university system (Ayotaya University and Bangsiam University). Firstly, their desire to study specific subjects was the main reason for choosing a particular university, typically because the student found the subject interesting or potentially advantageous to their future career. For example, Mary and Rita both chose their universities based on their preferred subjects. Meanwhile, the physically disabled students, Peter and Nancy, chose to study subjects they thought could improve their career prospects in the future.

Secondly, Peter and Mary expressed a preference for the learning methods used by an open university as this system allowed them to learn by themselves and did not require them to attend classes every day. In addition, Peter and Mary had difficulty commuting to university, in particular not to mention the cost and the distance. The flexible learning methods of an open university could resolve these issues.

It is interesting to consider why these four students chose particular universities and how this relates to their awareness of DSS centres. Although the two visually disabled students, Nancy and Rita, knew about DSS centres before entering HE, their reasons for choosing a specific university were not related to this. Likewise, the choice of university for the two physically disabled students, Peter and Mary, did not depend on the availability of the DSS. Indeed, they only found out about the DSS centres upon attending their universities. In short, it seems their choice of

university was neither influenced by knowledge of DSS nor related to the availability of the DSS because they had their own reasons for their choice choosing their universities.

4.3.2.3 Administrative system: Open and Non-open universities

There are several differences in the administrative system, including variations in the application and enrolment processes, between open universities (Ayotaya University and Bangsiam University) and non-open universities (Chiangburi University and Danthai University). One of the differences is that open universities, in particular, Ayotaya University, require all application and enrolment documents to be sent by post. Although Bangsiam University is an open university, the application and enrolment process differs from that of Ayotaya University in that students can enter do this process by online, but they must collect a student card and an application fee receipt in person. The story of Nancy and Rita differs from that of Peter and Mary in that they are studying at non-open universities, and the administrative system at these universities requires the student to apply and enrol in person.

4.3.2.4 Commencement of Services

There were certain times when the students started to receive services from the DSS centres. In Rita's story, the DSS centre at Danthai University provided formal services to her during the application process. She had the opportunity to meet with the DSS centre staff during this process, which included the application, an interview, and enrolment. Therefore, the staff at this centre already knew about her disability and learning requirements, for they the staff seemed to have addressed her situation and prepared services before the first term by finding accommodation for her, providing learning support, and offering support services for examinations. Because the administrative system at Danthai University requires the student to apply and enrol in person, the DSS centre at Danthai University was able to meet Rita early on in the application process and commence the service delivery promptly. Receiving services from the DSS centre early on appears to have been

useful for Rita, as these services may minimise problems related to learning and university life and encourage confidence in their new academic steps.

Contrastingly, Peter's application process was by post; therefore, he did not have a chance to meet with the DSS centre staff at the beginning of his first term at the university. However, the DSS Centre staff at Ayotaya University contacted him in the middle of his the first term in order to arrange assistance for his upcoming examination.

It appears that, even though Mary had the opportunity to visit Bangsiam University herself, she did not know about the DSS Centre. Thus, she did not meet the staff there when she collected her card and receipt early in the term. In fact, during the first term, she spent many months studying without receiving any information from the DSS centre to support her learning. Indeed, Mary did not receive information about examination support services until the day of her end-of-term examination. And Nancy did not receive any support services from the DSS centre at Chiangburi University at all.

4.3.2.5 Disclosure of Disability

The information gathered from the disclosure of disability helps universities to determine which support services their DSS centres should offer to disabled students. The process of formal disclosure of disability to the university was similar for Rita, Nancy and Peter. These three students disclosed the information about their disability during the application process. Rita and Nancy took their application form in person to the university and Peter gave his information on the application form. On the other hand, the application form for Bangsiam University is submitted online and does not have a section for disclosure of disability. Therefore, Mary was not able to disclose her disability during the application process.

After disabled students have disclosed their disability to the universities, it appears that the universities pass the information to the DSS centre or divisions that offer services to disabled students in order to prepare support services for them. The DSS centres at Danthai University, where Rita is a student, and Ayotaya

University, where Peter is studying, seem to use the information from the application process to provide appropriate services for them. For example, the DSS centre at Danthai University provided help for Rita during her application interview and, as previously mentioned, Ayotaya University contacted Peter in the middle of his first term to help him prepare for his examination. On the other hand, although Nancy disclosed her disability during the application process, she has not received any support services from the DSS centre at Chiangburi University. Nancy has assumed that the centre either may not have received her information or only provides support services to full-time postgraduate or undergraduate disabled students.

4.3.2.6 Financial support for Students with a Disability

Peter, Mary and Rita have received the financial support for students with a disability in HE; the three universities adhered to the same standard when providing financial support to the DSS centre and a similar process was employed to transfer money to the students' bank accounts. There were, however, differences with respect to the application processes. In Peter's story, he had to send his application form by post to Ayotaya University's DSS centre. Meanwhile, Mary was able to choose between posting her application form and applying in person at Bangsiam University's DSS centre. Rita, on the other hand, applied for support in person at Danthai University's DSS centre. The differences in the application process ostensibly relate to the distinct policy of each university. In the story of Nancy, she has not received any financial support.

4.3.2.7 Overview of Services Provided

The services provided by the DSS centres to the four disabled students seem to relate to the differences in the teaching and learning systems at each university. With regard to the four universities, Bangsiam University, Chiangburi University and Danthai University provide classroom learning for students, and attendance is compulsory in some modules. However, Ayotaya University operates entirely through distance learning. These differences seem to influence DSS services for disabled students. It appears, unsurprisingly, that more services are provided to

students who attend classroom learning. For example, Rita has found that the responsibilities of the DSS centre staff at her university include providing services for visually impaired students and hearing impaired students. These seem to be routine services and staff are on standby at the office to attend to walk-in callers requesting any support. Furthermore, a TSL interpreter is provided for every class for deaf and hard of hearing students. Similarly, the DSS centre at Mary's university provides routine support services for students who need them. For example, providing special software, lectures transcribed and exam question papers in Braille format for visually disabled students, by utilising transcribed lecture notes service and buddy system services. Despite the fact that Chiangburi University focuses on students attending classroom learning, Nancy has not received any support services from the DSS centre at Chiangburi University. Unlike the other universities, Ayotaya University focuses on distance learning for students. Therefore, the services from the DSS centre seem to be only occasional services, such as providing assistance for an examination only when students are required to be on campus.

There are ten service areas that were investigated doing interviews in this study. These have been chosen from the review of services of the DSS centres in Thailand. In addition, these topics are used as the framework for a section of the questionnaire regarding the services provided by the DSS centres:

1. Induction, registration and enrolment services
2. Accommodation services
3. Assistive technology services
4. Accessibility information services
5. Training skills services (e.g. university's activities and social training skills)
6. Health and well-being services
7. Transportation services
8. Assistant services (e.g. staff, peer, volunteer)
9. Examination support services
10. Job counselling services

1) Induction, Registration and Enrolment services

Rita and Mary had similar experiences of receiving introduction and registration services from the DSS centre. Rita received the services in her first term, during which the DSS centre of Danthai University supported her in the application, registration and enrolment processes. These processes require students to submit the completed form on hard copy paper or on a website. The DSS centre offers support in this area, as with most of the introduction. The registration and enrolment process is not designed for visually disabled students.

Mary has also received this service from the DSS centre of Bangsiam University when enrolling in her second term, at the suggestion of the Office of Registration (OR). This office seems to cooperate with the DSS centre in providing this service to disabled students for each module that is limited. There are a limited number of students eligible for this module and a limited period of registration, which means that students are enrolled on a first come first served basis. Consequently, the DSS centre provided a special introduction, registration and enrolment service to address these problems, thus Mary was able to take advantages from this DSS centre service. However, the centre does not appear to share information about her disability with lecturers in each module, as Mary has encountered a problem with access to classrooms in inaccessible buildings.

Peter has not received any introduction, registration and enrolment services from the DSS centre because the OR of Ayotaya University provides information about introduction, registration and enrolment to students through the internet and through its handbook. This information is clear and easy to understand, so Peter felt competent to complete and these has done it by himself.

Nancy has not also received any introduction, registration or enrolment services from the DSS centre of Chiangburi University, but she addressed the situation by receiving support from her friends and faculty staff. Nancy needed help for registration because the process uses paper forms that are not designed for visually disabled students. Friends helped her to read and fill in the form in the first

term. In the second term, Nancy requested this support from the faculty, so the faculty staff have helped her in the module enrolment process.

2) Accommodation services

The DSS centre of Danthai University provided accommodation services to Rita at her request prior to the start of the first term. In addition, she received this support again when she moved from her old accommodation to her new accommodation in the DSS centre building. Peter, Mary and Nancy have not received this service from their universities. Peter and Mary's universities focus on mainly distance learning, so the policies of the DSS centres at these universities do not provide accommodation services. However, they have commented that they would like accommodation services, to support tutorial attendance for Peter and to support her early-morning classes for Mary. They both gave the same reason for needing these services: their physical disability required extra spending means spent on transportation which is both challenging and costly, and that is why Peter tried to find suitable accommodation near his tutorial location and Mary tried to find accommodation near her university. Thus, they both failed to find accommodation and felt that there was a lack of support for gaining opportunities for future learning.

In Nancy's story, she has not received any accommodation services support from the DSS Centre of Chiangburi University.

3) Assistive technology services

The four disabled students have their own equipment, so they do not seem to need support from their DSS centre. Rita needs assistive technology services for learning in the format of software for reading for a visually-impaired person; therefore, the DSS centre at Danthai University has provided the software for her. This software is PPA Tatip, which is screen reading that helps a visually-impaired user read information on a computer and the internet. The DSS centre has also helped her to fix any problem with her laptop and the PPA Tatip software. Although Nancy has used the PPA Tatip software, she did not receive this software from the DSS centre at Chiangburi University. Furthermore, she has not received assistive

technology services from this centre. Peter and Mary have not received assistive technology services from their DSS centre either, as both of them study in open universities which are based on distance learning.

4) *Accessibility information services*

The accessibility information services from the DSS centre help disabled students to access learning materials, the library, and the internet. Nancy and Rita receive some accessibility information services for learning materials, such as text files in lecture modules. Some lecturers do not seem to understand why Nancy and Rita need lecture module sheets in a file.doc format in order to use them with the screen reading software. Therefore, Nancy and Rita use the same way to address their problem, which is by communicating with lecturers themselves without support from the DSS centre. Although Mary and Peter both study in open universities, there are differences regarding access to learning materials. Mary has received materials in person at Bangsiam University, while Peter has received materials by post and he faces a problem with the delay in Ayotaya University sending the materials. Peter needs to address this situation by finding support from friends.

Regarding the provision of accessible information services for disabled students in the library, there are similarities between Peter, Mary and Nancy in that that they have not received these services from their DSS centres. This is because Peter and Mary study in open universities and they have never visited the library on the campus. Although Nancy has to attend classes on the campus, she has not received any services from the DSS centre at her university, and she needs accessibility information services to help her do research during the next academic year. In Rita's story, she has received assistance from friends who help her to find information in the library.

Rita has received accessibility information services on access to the internet by receiving screen reading software from the DSS centre. On the other hand, Peter, Mary and Nancy have not received these services.

5) Training Skills Services

Mary and Rita receive training skills services from their DSS centre. Mary has attended these services provided by the DSS centre many times, such as computer training and language skills. Mary is interested in participating in training skills courses because they provide benefits for her, because her university focuses mainly on distance learning, and therefore attending training skills courses gave her an opportunity to meet new friends and interact with the DSS centre staff. Furthermore, sometimes she has been unable to find and reserve a training skills course, as the places, as before mentioned, are allocated on a first come first served basis. As there are many students who seem to be interested in the same courses, the DSS centre has helped her with this.

Similarly, Rita has a positive opinion about the training skills services from the DSS centre of Danthai University, since she benefits from participating in training courses. She has received these services from the DSS centre many times, such as training in computer skills, using special software for visually-impaired students. Although Rita's university and the DSS centre have provided various training skills services for disabled students, very few other departments provide support for visually-impaired students. As can be seen, the DSS centre has provided a TSL interpreter for hearing-impaired students for most of the training skills courses. Rita needs to address her situation by finding new friends to help her.

In contrast to Danthai University, Ayotaya University focuses on distance learning, and therefore Peter has not received any training skills services from the DSS centre. Nancy's story is similar to Peter's in that she has not received any training skill services support from the DSS centre; however, she is interested in accessing this. In particular, Nancy is concerned about her disability and wants training in research and library skills because she is studying at postgraduate level and these skills appear to be important for her future research.

6) *Health Well-being Services*

Rita has received health services from her DSS centre because she lives in accommodation provided by the centre: it advises and helps Rita to access health services when she feels unwell. However, Peter, Mary and Nancy did not receive this service from their DSS centres. Peter's university uses distance learning and the DSS centre of Ayotaya University does not provide health services for disabled students not on campus. Although Mary's university requires attendance for some classes, she has not received any health services from the DSS centre.

Nancy has not received any health service support from the DSS centre of Chiangburi University.

7) *Transport services*

The transport services provided help disabled students in various ways. For example, providing cars or buses and disabled parking services. Some of the DSS centres have provided these services for disabled students; however, none of the four disabled students have received transport services from their DSS centre.

8) *Assistant services*

Peter, Mary and Rita have all received assistant services from the staff at the DSS centre at their university. Ayotaya University mainly uses distance learning; therefore, Peter has received support from the staff from the DSS centre over the telephone. Although Bangsiam University seems to focus on distance learning, the DSS centre has provided assistant services for disabled students, as there are some modules that have lectures in the classroom. Furthermore, this DSS centre has provided these services through staff as well as the buddy system and volunteers. However, Mary has received support only from the staff of the DSS centre. This situation is similar to the provision of assistant services at the DSS centre at Danthai University because the centre has also provided peer-to-peer support and volunteers, while Rita has only received services from the staff.

Nancy has not received any assistant services from the DSS centre at Chiangburi University; however, she has received assistant services from the faculty staff, classmates and other volunteers.

9) Examination Support services

The examination service seems to be a common service from the DSS Centres that was identified by all four students in the interviews.

Peter and Mary are similar in receiving these services from their respective centres and the basic service provided relates to being able to sit an exam in a special room accessible for students in a wheelchair. In addition, Mary requested a special service in writing the answer on in the answers sheets in the exam because she has some problems with her writing. This service is similar to that provided by the DSS Centre of Danthai University for Rita. Additionally, Rita has received support by having the exam questions read out to her, and extra time being provided in the exam. However, Nancy's situation requires a different service which was provided by the faculty staff, at Nancy's request, rather than by the DSS centre. Furthermore, Nancy had to make further suggestions to improve the service in subsequent examinations as the faculty staff did not have specialist knowledge to provide suitable service for her.

10) Job Counselling services

On the topic of job counselling services, the DSS centre in Danthai University provided this for Rita because she has to complete an internship as part of the course before graduating. Therefore, the DSS has supported her by helping her to find organisations which are suitable for people with her disability. Although Rita's internship has not started yet, the preparation at the early stage seems to have increased her understanding and helped her to prepare for the internship next year. Furthermore, providing job counselling services for Rita illustrates the attention the DSS centre at Danthai University has paid to Rita's internship, which is an important part of her HE, and the support for Rita in her transition from education to employment.

On the other hand, Peter, Mary and Nancy have not received job counselling services from their DSS centre. Peter and Mary are studying at open universities which do not focus on internships for students. They would like to receive job counselling services from their DSS centre, however, in order to increase their opportunities for employment. This is identifiable as a particular difficulty for disabled students. Nancy has not received any support from the DSS centre at Chiangburi University, as she is studying at the postgraduate level, which does not require an internship.

4.4 Conclusion

This chapter presented the findings from a quantitative online survey of 203 respondents and in-depth interviews with four disabled students. The findings of this chapter fulfil the three objectives of this study. The survey results showed that most of the respondents were aware of the DSS centre and used the DSS centre services occasionally i.e. less than once per term. However, there were some respondents who did not use a DSS centre, mostly because the respondent was unaware of its existence. This study used a five-point Likert scale for studying the satisfaction of disabled students with DSS centre services. It demonstrates that the respondents were satisfied with the support services provided by the DSS centre, specifically with the induction, registration, and enrolment services. In-depth interviews were conducted with two physically disabled students and two visually impaired students at undergraduate and postgraduate levels studying at non-open universities and open universities. The four participants provided their views on the conceptualisation of the DSS centre services, whilst studying in HE; using the services, the importance, advantages, and disadvantages of the DSS centre.

Chapter Five

Discussion

5.1 Introduction

This chapter consists of seven main sections. The first section is introduction. The second section discusses the impact of developing DSS in Thailand on numbers of disabled students in HE. The third section examines the role of models of disability in DSS in Thailand. The fourth section discusses the concept of DSS with respect to disabled students. The fifth section analyses the experiences of disabled students with regard to accessing and using DSS. The sixth looks at the advantages and disadvantages of the DSS centre from the perspective of disabled students. The final section discusses the specialist DSS centre and general services from the perspective of disabled students.

5.2 The impact of developing DSS in Thailand on disabled students in HE

The impact of developing DSS in HE in Thailand is related to an international increase in awareness regarding people with disabilities, especially regarding awareness of the educational rights of disabled students. Thailand is a member of many international organisations, such as the UN and UNESCO, which raise awareness about disabled people's needs (Pengpae, 2010; Sujirakul, 2009; Tieammanee, 2009). Therefore, DSS centres have been developed for supporting the studies of disabled students in HE, which were inspired by the enactment of new education acts, such as the National Educational Act 1999 and the Education for Disabilities Act B.E. 2551 (Hill & Sukbunpant, 2013), as outlined in Chapter 1. Moreover, these Acts appear to have changed Thai schools and HE institutions so that they are encouraged to welcome disabled students who want to attend these institutions. Previous laws used to state that disabled children could not enter the education system because of their conditions (Sukbunpant, Shiraishi & Kuroda, 2004). The Thai government now provides learning in basic education (primary and secondary levels) for disabled students, via supporting special schools and

inclusive schools. These efforts create a context whereby more opportunities and choices are offered when it comes to disabled students' studies, as educational institutions now have to receive disabled students and provide learning support for them. The development of DSS in HE in Thailand is shown in figure 5.1.

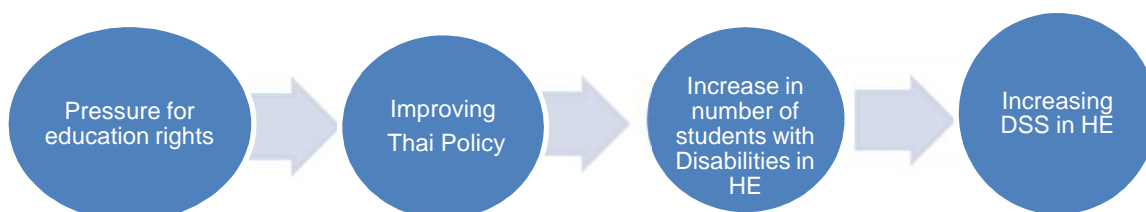


Figure 5.1 The impact of developing DSS in Thailand on disabled students in HE

It is clear that the government is aware of the need for disabled people to enter the education system at the HE level and has provided learning support for the students at this level via DSS centres. Therefore, disabled students do not only have an increasing chance for studying at a high level, but they also have more choices for studying in various subjects different from those that were previously available (Benjasiri, 2016). The results of the online survey in this study showed that the respondents were studying 30 different subjects, including agriculture, the arts, chemistry, health sciences, and psychology, across 20 universities. This situation appears different to the previous situation, as disabled students were limited to studying certain subjects. In particular disabled students were not able to study some subjects, specifically medical and scientific studies, such as chemistry, health sciences, occupational therapy, and psychology, due to a lack of support from universities (Benjasiri, 2016). Currently, however, disabled students study many different subjects, which may be related to the increasing number of DSS centres in universities. This appears to be a positive situation for disabled students because in Thailand, disabled people seem to have limited opportunities for employment. Therefore, studying various subjects can allow disabled students in HE to use their degree to help them gain good career opportunities.

The online survey in this study also found that although the distribution of disabled students studying various subjects seems to be positive, the students encountered problems in terms of a lack of certain services from DSS centres. The respondents felt that there was a lack of assistive technology for supporting their learning. Some visually impaired respondents stated that there was not enough assistive technology, computers, and special software for blind and visually impaired students. They need support from DSS centres as some of these items are expensive if the students need to pay for them themselves. Furthermore, the respondents explained that the libraries do not provide assistive technology for visually impaired students, such as screen-reading software, magnification software, and closed-circuit television (CCTV); therefore, students in this situation needed to use informal services from classmates. However, addressing the problems of access to assistive technology services by informal services from classmates may not be sufficient or permanent. Therefore, cooperation between DSS centres and other organisations may help those visually impaired students have more choices, such as borrowing assistive technology from disability technology centres, charitable organisations for visually impaired people, etc. (Sindhusiri, 2012).

Moreover, respondents who were hearing impaired students also experienced problems of a lack of DSS in HE in terms of the limited number of TSL interpreters. The online survey found that almost 10% of the respondents felt that there should be an increase in the number of TSL interpreters for supporting hearing impaired students. This situation does not only arise in class, but it also limits the students' opportunities for participating in the universities' activities due to the low number of interpreters (Sathugarn, 2007). Although DSS centres have addressed the problems of the lack of TSL interpreters for assisting disabled students by using government aid, such as requesting financial support for paying TSL interpreters, it has been found that the number of TSL interpreters seems to be insufficient to meet the demand of DSS centres in many universities (Chaiwatankulwanich, 2015). A study undertaken by Sangsoontorn (2014) found that, in Thailand, there are over 500 TSL interpreters registered with associations for helping deaf people; therefore, this appears to be enough for DSS. However, Chaiwatankulwanich

(2015) pointed out that Thailand faces the problem of a lack of TSL interpreters due to the need to train government staff and other volunteers for addressing problems of the shortage of TSL interpreters. It is clear that this lack of TSL interpreters may present problems and impact DSS centres in universities, as the demand for TSL interpreters is high in Thailand. Many organisations need to support people who are hearing impaired or deaf. Addressing this situation DSS centres may need cooperation with many different people and associations for making a plan to produce TSL interpreters, such as Thai Deaf associations and universities, which provide a TSL interpreter curriculum. Moreover, DSS centres may use assistive technology, such as designing subtitles in lecture videos that may be an alternative way of helping hearing impaired students in HE.

In conclusion, awareness of people with disabilities at the international level impacts the development of DSS in HE in Thailand as the Thai government is now paying attention to the provision of education for disabled learners and has implemented new laws to support their education. This has offered educational opportunities for disabled students at all educational levels in Thailand and has increased the number of disabled students entering HE institutions. Moreover, DSS in HE in Thailand appear to have increased, as there are now DSS centres in over 20 universities, and disabled students can now study a variety of subjects. This situation differs from the past, when disabled students could only study specific subjects for reasons related to their disabilities and a lack of support from universities. On the other hand, the increasing number of disabled students in HE has resulted in negative situations, such as the low capacity for providing services for disabled students. There is an imbalance between the number of the students and the level of available services from DSS centres. Moreover, the findings from the online survey in this study found that there were some problems in accessing DSS in terms of assistive technology and a lack of specific services from TSL interpreters. These issues may need to be addressed in order to help disabled students in HE.

5.3 The role of models of disability in DSS in Thailand

As stated above, the provision of education for disabled students in HE appears to be developing and Thai universities offer greater opportunities for these students. There is little awareness of the need to help disabled students to access HE, however, and one of the reasons for this may relate to understandings of disability. Thai society has become so familiar with supporting disabled students through the charitable and medical models that this approach may not be easy to change (Cheausuwantavee, 2011; Punpuing, 2010), as both models have played an important role for a long time. The charitable model refers to looking after disabled people who are perceived as being unable to look after themselves and needing to depend on other people, therefore, support from the state and special schools were established to support disabled people (Shanimon & Rateesh, 2014). Regarding Thai people's views of disabled people in the charitable model, it seems that it is very disappointing to have disabled people in the family and they need to stay at home as they may not be able to live on their own, so they need charities to help them (Punpuing, 2010). Moreover, charitable acts or donations to help disabled people may relate to Buddhists' belief that someone will be lucky or receive good things if they donate or help other people, so this could be a reason why Thai people seem interested in helping disabled people (Yotanyamaneewong, 2012; Kanchanachitra, 2014). As the charitable model seems to have been in existence in Thailand for a long time, disabled students may be familiar with this model and do not understand how to participate in society and their rights (Punpuing, 2010).

The medical model focuses on 'treating' disabled people as having a medical condition and defining the individuals affected by their impairments, such as blind or deaf (Shanimon & Rateesh, 2014). This definition may help in finding appropriate support for disabled people. For example, blind students need to study in a special school as general schools do not provide special support for their studies. Therefore, many special schools, such as special schools for blind, deaf and mentally impaired students, were established in many parts of Thailand. However, the definition of disabled people led to them being separated from

society in special places for people who may have the same type of disability. Therefore, in some Thai families, if they have a disabled member, it is usual to send them to a special school rather than sending them to a general school for them to integrate with non-disabled students. Separating disabled people in these places ignores the right of disabled people to be included in society. However, this separation appears to support the charitable model, as many Thai people give donations to help special schools and disabled people due to Buddhists' beliefs (Aticomvitaya, 2012), as mentioned earlier. As the charitable and medical models in Thailand seem have played a role in Thailand since World War Two, it will take time for a social model to be understood which might encourage Thai people to believe that disabled people should be included in society (Punpuing, 2010).

The social model of disabilities has an opposing view to the medical model in situating disability within society rather than the individual. It suggests that societal barriers should be removed to increase the opportunities for disabled people. In the context of HE in Thailand, although the social model has become a part of providing services for disabled students to access HE, it seems that the medical model also plays an important role in disabled students accessing services from the DSS centre (Cheausuwantavee, 2011), as the students need to undergo the process of evaluation and definition of their disability by medical professionals to receive evidence of their disability before being provided with the required services from the DSS centre at the university (Singsuriya & Angsumalin, 2014). This evaluation and definition by a medical professional can help the centre to find appropriate support for individual disabled students. For example, some visually impaired students may need a special text format or large print materials to support their studies. Under the social model, the students would be supported by removing the barriers to learning for disabled students and helping them to participate in society (Singsuriya & Angsumalin, 2014), for example, helping disabled students to enter HE and providing support services for their study. Moreover, the DSS centre plays a role in providing information about disabled students to other people, such as non-disabled students and organisations, as it seems to be a representative of disabled students to provide information about disabled students to classmates, lecturers and faculties to help them understand

each other. These actions of the DSS centre may increase the awareness of disabled students in HE.

However, it seems that it is not easy to take action using only the social model in the context of providing education for disabled students via the DSS centre in HE in Thailand. As this model seems to be a new notion and some Thai people still believe in the charitable model that could help them to receive good things after doing acts of charity. Moreover, the medical model has a powerful influence in the special education area for classification of disabled students, which leads to the provision of support services for them (Cheausuwantavee, 2011; Singsuriya & Angsumalin, 2014). The concept of DSS seems to mix the notions of both the medical and social models for identifying the disabled students and their need for the support services, DSS seems to operate under a medical model. However, in developing awareness of disability and contributing to change in society's attitude towards disability, for example, DSS seem to also relate to a social model in reducing attitudinal barriers. Moreover, the removal of barriers in society to increase opportunities for disabled people, such as offering opportunities to study that may lead to getting a job, seems to be more permanent than donations, which only provide temporary assistance.

5.4 The conceptualisation of the term DSS by disabled students

This study asked respondents about their awareness of DSS centres via an online survey, and found that most of the respondents were aware of DSS and use DSS centres (see Chapter 4.6 Disabled students' awareness and use of the DSS centre). This finding seems to show an increase in disabled students' awareness of DSS as compared with a study five years ago by Sindhusiri (2012) on DSS for disabled university students in the north east of Thailand which found that the students had little awareness of the DSS centre in their university. Although this current study found an increasing awareness of disabled students about DSS, some of them were aware of DSS but did not use them as they did not know where the centre was. This situation may relate to a lack of provision of information about DSS centres to the public, as a result, disabled students did not know about the location of the centres and did not receive support services from the centre.

Information about the centres may help the students understand the role of DSS and could be beneficial to students who want to use those services (Lightner et al., 2012).

In the second stage of this research disabled students were asked about the term DSS via interviews in order to address the first research question of this study: how do disabled students in HE in Thailand conceptualize DSS? Responses in relation to this term can be divided into two groups: the first group were disabled students who had had previous experience with DSS prior to attending universities and the second group were disabled students who had not experiences with the DSS before attending universities.

The concept of DSS from disabled students who had never had experiences with DSS before entering university defined the term DSS as an information centre for disabled people that provided information about the rights of disabled people with no mention of learning services. An illustration of this is that of providing medical services for disabled people and using the disability card for state services. It seems that this concept seems to be similar to the concept of hospitals and rehabilitation centres. The conceptualisation of DSS by the students in this group might be shaped by and related to their experiences of services received in hospitals and rehabilitation centres. Contrary to this, interviews with disabled students who had experiences with DSS before attending universities was shaped by their experiences with DSS prior to entering university. For example, some of the disabled students received support from DSS at their previous education institutions and could define the concept of DSS as a resource to help disabled students learning. In addition, interviewees were also able to describe the details of the service and their individual experiences.

This study found that the experiences with DSS of physically-impaired interviewees differed from those of visually-impaired interviewees. The experiences of physically- disabled interviewees regarding DSS in basic education in Thailand (primary and secondary education) seem to be different from those of other disabled students, such as visually-impaired students, as there are different support service styles. For example, physically-disabled students are in inclusive

schools; however, there are no DSS centres providing support in these schools as the government has not built centres that provide support for physically-disabled students in this academic area. It seems that there are no DSS centres in inclusive schools as the government helps the schools by adapting buildings and/or building accessible buildings by providing ramps and toilets for physically-disabled students who may need support in the school environment. On the other hand, there are DSS centres in inclusive schools that support visually-impaired students, and these centres have received support from associations for people with a disability. Therefore, the interviewees who have had experiences with DSS understand the process of the provision of services.

This study also found that the physically-impaired interviewees lacked experience with DSS before studying at university. This lack of knowledge of the students about the role of the DSS may relate to them struggling to find services to support them in HE. This finding is congruent with the research looking at why university students with a learning disability wait to seek disability services (Lightner et al., 2010), which found that disabled students had a lack of knowledge of the services that were offered by DSS centres. This lack of knowledge about DSS was related to the disabled students seeking support. As disabled students lack knowledge of DSS, they may not use their services and may not receive benefits from the DSS centre while they are studying and living in a university. This relates to the experience of an interviewee, who did not seek any support services from the university as she did not know about the support services provided by the DSS centre. Although some respondents in this study did not mention their conceptualisation of the term DSS, they were aware of the advantages of DSS that relate to their experiences and to those of other disabled students.

To sum up, this study found that most of the respondents were aware of DSS centres and use them. Some respondents did not use the centres, however, as they had no need for support, no interest in using them, lacked information about the location of the centres, or were reluctant to ask for help. The conceptualisation of disabled students regarding DSS may be shaped by their previous experience. Students who did not have previous experience with DSS defined the term DSS

based on their understanding. In contrast, the disabled students who had previous experience with DSS before studying at university remembered what the services provided and expected to receive services to support their learning when they entered university.

5.5 The experiences of disabled students with regard to accessing and using DSS

The results of the data analysis for this study indicated that the experiences of disabled students with regard to accessing and using DSS include the disclosure of disability to the DSS centre and procedures for accessing DSS. Moreover, there were differences in the perspective of the service provision from the DSS centre between non-open and open universities.

5.5.1 Disclosure of disability to the DSS Centre

The disclosure of disability is an important process for accessing DSS at university as disabled students need to disclose their disabilities in order for the centre to provide appropriate learning services for them (De Cesarei, 2014; Hudson, 2013). This study found that although the disclosure of disability to the DSS centre could benefit disabled students as it led to accessing the centre's services, in fact, the disclosure of disability process seems to have problems and affects the access to services of disabled students.

The interviewees in this study pointed out the advantages of the disclosure process in the application stage, as it helps the students to receive support from the university. Furthermore, the university offers services at every stage, such as contacting disabled students at the beginning of term to provide information about the DSS, and contacting them during the term to help them prepare for examinations. It seems that disabled students gain advantages from these services from the DSS centre as the DSS centre uses information from the disclosure process in the application process. This finding is congruent with the research carried out by Gilson and Dymond (2012), who found that the disclosure of

disability was useful for disabled students, and Hudson (2013), who found that receiving early intervention support services has positive effects on learning.

Although the government in Thailand has made provisions regarding the entry to HE of disabled students since 1999, it was found that the process for support services for the students appears to be ambiguous, especially the issue of the disclosure of disability process and using the information from this process to provide services to disabled students. Disabled students were unable to access the services of the DSS centre or access was delayed. The reason for this situation may be that perception of learning in HE of disabled students seems not widespread, so universities seem to lack awareness of the process of providing support services for the students. The disclosure of disability, in particular, has advantages and impacts on the learning of disabled students in HE; therefore, the universities need to consider this and support disabled students with regard to disclosure of their disability, for example, including the disclosure of disability on the application form. Although the issue of disclosure of disability seems to be sensitive and personal, the university needs to know about the disability of disabled students and use this information to provide appropriate services for these students. Furthermore, sending information relating to the disclosure of disability to the university could lead to the DSS centre, faculty and tutors being aware of the services that are required by disabled students.

Although the disclosure of disability offers advantages for disabled students in HE, some of the students refused to disclose their disability. This appears to be due to personal reasons, as this is a sensitive issue that could lead to the student feeling isolated, stigmatised and discriminated against. This assertion is supported by the findings of many research studies, which show that some disabled students preferred not to disclose their disabilities because of stigmatisation and discrimination (Bolt, Decker, Lloyd & Morlock, 2011; Gilson & Dymond, 2011; Timmerman & Mulvihill, 2015; World Health Organisation, 2011). This leads to disabled students refusing to disclose their disability and refusing to receive the services from the DSS centre.

Moreover, denying disclosure about disability of disabled students to the DSS centre may cause by lacking of the evidence identifies disability of the students. The important of the evidence of disability was explained by Williams et al. (2008) who explained that the identify information of disabled students is essential to provision support services to disabled students as the medical professional diagnosis the students which include information problems of the students. Some disabled students may want to disclose their disability in order to receive support services from the DSS centre (Laurence, 2011); however, the students face a difficult situation. This is due to the fact that the disclosure of disability must be accompanied by medical evidence that could enable disabled students to access the DSS centre's services, which is why some disabled students refused to disclose their disability.

5.5.2 The procedures for accessing DSS

The evidence gathered from interviews in this study shows aspects of the procedures for accessing DSS in Thailand, which includes receiving planned and unplanned services from formal or informal DSS centres (Figure 5.2).

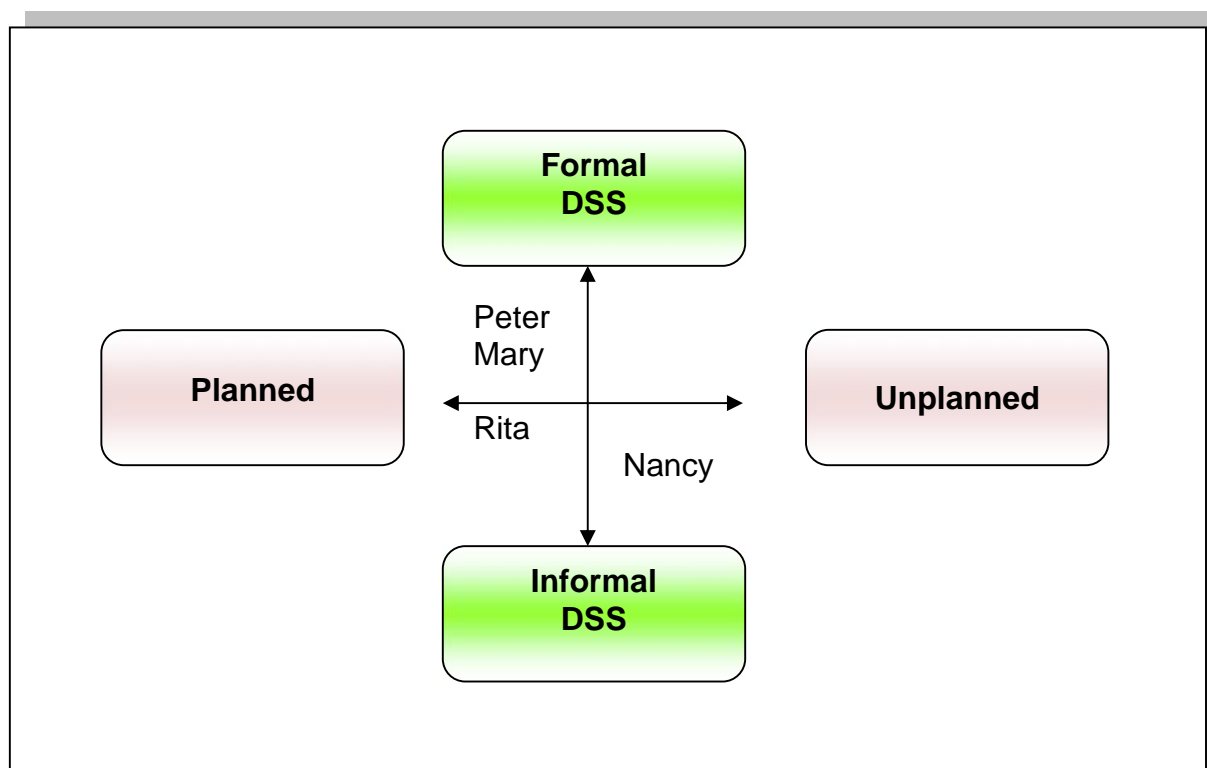


Figure 5.2 The procedures for accessing DSS

Figure 5.2 shows that there were four interviewees included in this study. There were two interviewees (Peter and Rita), who studied in a non-open university and an open university who accessed planned support services from a DSS centre. Both of them received the services, as the universities had planned for disabled students in their application processes. It seems that the information taken from this process identifies the disabled students who should be receiving formal services from the DSS centre at their university. In comparison, for the other two interviewees who were not able to disclose their disability on the application process, accessing the services of DSS centre appears to have created problems, for example, delays in receiving formal services or not being able to access the formal services.

The physically impaired interviewee (Mary) from the open universities seemed to have only received some parts of services from the DSS centre, as the application process of her university did not have a section for disclosure of her disability. Thus, she did not receive formal support from the DSS centre at the beginning of the term. As staff at the DSS did not know about her disability, she appears not to have been included in the DSS centre plan and therefore was unable to access any services until meeting with the staff at the examination. However, the support services from the centre should have provided support for her immediately and ensured a plan was developed for her when she registered with the DSS centre.

The last student to be interviewed was a visually impaired interviewee was a postgraduate part-time student (Nancy), who had also not received any formal support from the DSS centre. The interviewee stated that although she disclosed her disability in the application process, the disclosure did not seem to have been used for informing the DSS centre. The centre did not contact her or provide any formal services at the beginning of term. Therefore, she needed to use informal services, such as assistance from friends and the faculty, to support her learning.

In summary, the procedures for accessing DSS in this study found that the provision of planned support services for disabled students seems to be advantageous if they can receive formal services from DSS centre at an early stage. When the students disclose their disability during the application process,

the DSS appear to use their information to plan formal services to them. Although disabled students may want to disclose their disability in the application process, it was found that each university has different policy on disclosure about the disability of the student, and some universities appear not have the section for disclose of student disabilities. Thus, lacking awareness of disclose of disability in the application process may affect the provision of support for the students, in some cases meaning they could not access formal services. Additionally, it was found that informal support services could be an alternative process that disabled students may use if they cannot access the formal services available from the DSS centre.

5.5.3 Accessing to formal and informal services of DSS

In Thailand, although the planned support services provided by DSS centres depends on the universities' policies, it seems that informal services have an important role in supporting disabled students in universities. A study conducted by Tieammanee (2009) indicated that DSS centres in HE in Thailand appeared to be a relatively new system. Therefore, the centres currently lack action plans and clear processes for providing services, which affects the work of the centres and the quality of their services. The study also found that they lacked financial support from the government and did not have enough staff to provide for and service disabled students. This situation could decrease interest in support services from the DSS centre. Disabled students might not want to access or use formal services of the centre due to several insufficiencies, such as the difficulty and time requirements for accessing each service process. As there are not enough services for some disabled students, the centres may need to address these situations through informal services. Moreover, the students may not be able to wait for support from the DSS centres, as they may be facing a crisis. Therefore, requesting informal services from family and classmates tends to be the main choice.

Moreover, providing services for disabled students in HE seems to be new and the social model is also new, while informal services appear to be familiar within Thai society. The students and the DSS staff may have a limited understanding of the

social model, but the charity model appears to be at the root of Thai society, as it is part of the religious beliefs that are ingrained in Thai culture (Carter, 2006) as noted in section 5.3. The role of models of disability in DSS in Thailand.

Naemiratch and Manderson (2009) and Inthusut (2016) also found that Thailand appears to have charity underpinning society, as Buddhism has a great influence on the life of the Thai people. Yotanyamaneewong (2012) explained that Thai people are concerned with doing something in a positive way, believing they will gain positive results if they act well. For example, if people do an act of charity, for example, giving, and helping other people, they may obtain good consequences (Foley, 2005). The good they obtain may be in good feedback, appreciation and rewards, and these things make Thai people feel peaceful and happy, which seems to be the belief of Thai people. This belief could motivate people to assist disabled students, as assisting them could make Thai people feel peaceful. Moreover, Thai people are familiar with treating disabled people with kindness, compassion and sympathy, which are found in the basis of the relationships between people, such as parents and children or friends, with obligations being part of these relationships (Yotanyamaneewong, 2012).

However, the informal services may have limited processes and periods of assistance. For example, informal services such as obtaining help from classmates may not be suitable for examination situations. Some visually impaired students may need help reading texts and need texts in Braille versions, but classmates may not have enough time to help with every module, and producing Braille versions of texts might not be possible. Although the informal services appear to have weaknesses, Thai disabled students seem to be familiar with such services and, therefore, seem not to explore the DSS centre. There are few DSS centres in primary and secondary schools, so it tends to be hard to create the concept of DSS and to access the centre to request support. Furthermore, the notion of the rights of people with disabilities and supporting the learning of disabled students by DSS in HE appear to be new in Thailand. Thus, the students may have little knowledge of DSS centres and may lack the confidence to request support from these centres.

To sum up, the findings for accessing DSS showed that although most of the DSS centres in Thailand provide planned services for disabled students, it seems that accessing DSS informally is more familiar for the disabled students. This is because, as the DSS centres may have problems providing planned services, informal services by students can result from the relationships between the students and other people. Thus the students need to use informal means to support their academic and social lives in a university.

5.5.4 The different DSS service methods in Thailand

This study investigated the experiences of disabled students with regard to accessing and using the DSS. The data collected in the interview method shows key findings in two aspects: the differences in DSS between non-open universities and open universities and differences of DSS by timeline.

5.5.4.1 The differences service in DSS between non-open universities and open universities

The differences in DSS services between non-open universities and open universities can be divided into three important parts: learning system, method of providing services, means of implementation. These are summarised in Figure 5.3 below.

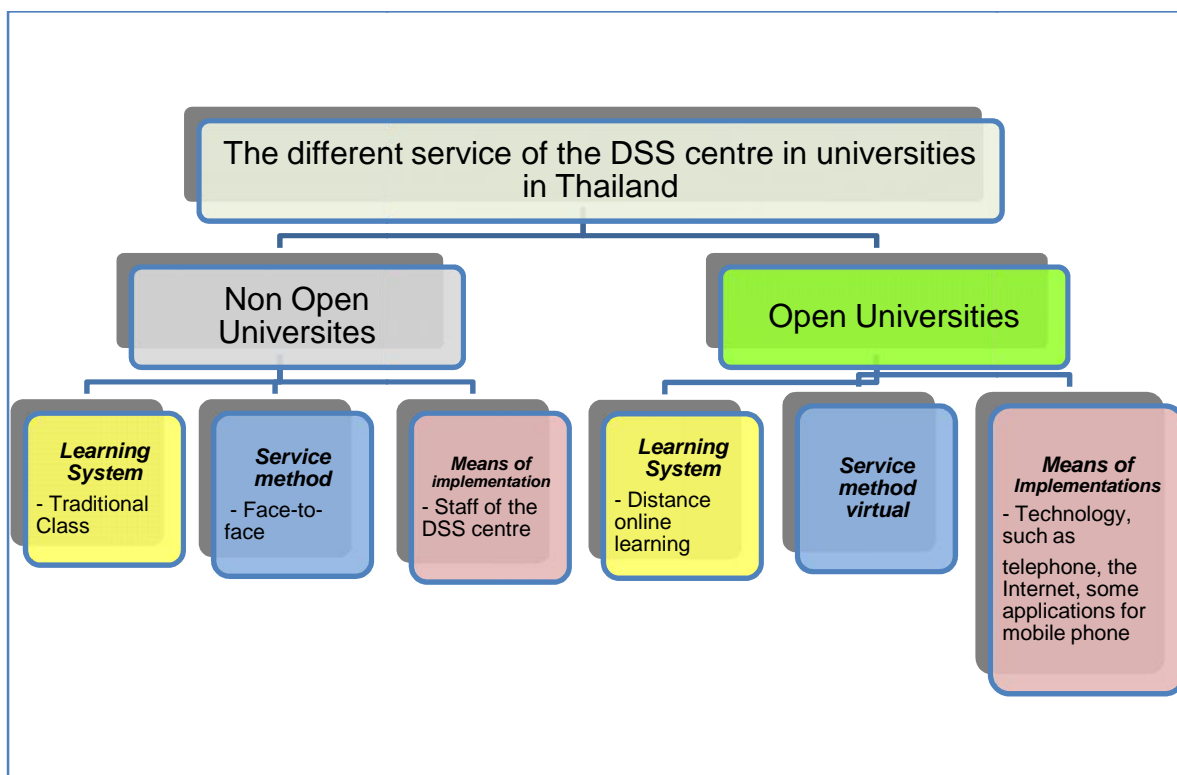


Figure 5.3 The different services of DSS centres in universities in Thailand

- ***Learning system between non-open universities and open universities***

In the Thai context, the DSS available to disabled students in non-open universities are significantly different from those in open universities, especially in relation to teaching and learning systems. Non-open universities have teaching and learning systems that are based on attending classes and participating in activities on campus. In open universities, however, the main elements of teaching and learning systems are based on distance learning, that is, the teacher and learner are in different locations and use technology as a tool to facilitate teaching and learning. Learning in non-open universities takes place via classes, however, and services are organised to provide effective learning for disabled students within the classroom. For example, the non-open universities focus on participation of students in social activities; these universities organise various activities for disabled students such as training programmes, sport and traditional events.

Therefore, there is a need for support services with regards to student participation in these activities in order to aid integration into university life.

Furthermore, the services for disabled students in open universities appear to be different from those provided by non-open universities. As distance learning is the core element of open universities and the students learn from many locations, the support services from the DSS centre appear to focus on access to academic information and support disabled students' learning rather than their social activities and student life. In Thailand, the services of the DSS centre in open universities include assisting with access to information and learning materials for disabled students. The DSS centre also provides information about the rights of people with disabilities in public services.

Moreover, this study has found that disabled students were not only in need in academic support services from their DSS centre but they were also in need of socialisation support that would help them to participate in and be trained in social activities while at university. The disabled students were aware that it is important for their studies in HE to participate in these activities so as to integrate with non-disabled students. This awareness of the importance of social support relates to a study on methods of improving the provision of educational welfare for disabled students in a university in Thailand by Tieammanee (2009), who states that the DSS centre in this university gives support to disabled students. So that they are able to participate in university activities; this could benefit the students as giving them experience of living with able-bodied people will benefit them when they graduate as they need to integrate with all types of people in society. The study also found that the university increases activities in order to offer disabled students a chance to participate with non-disabled students.

Although one open university has some classes on campus, the mission of the DSS centre at this university does not focus on services for social activity participation and student's life in university. The services of the DSS centre in this open universities include supporting access to learning information and material in learning for disabled students and providing information about the rights of people with disabilities in public services.

- ***Method of providing DSS to disabled students***

Another different aspect relates to the service method of DSS centres in non-open universities and open universities. Non-open universities provide classroom setting learning spaces and the service from the DSS centre appears to use face-to-face contact for supporting disabled students. Open universities appear to provide service through virtual service methods, which require communication through different from of media in order to reach the learners in various locations.

As support services for students in non-open universities are based on learning and the extra-curricular activities of the particular university, the DSS centre provides the same services for disabled students. Moreover, the non-open universities pay more attention to providing activities to all students on campus, which means that students need to obtain the services in person (face to face) at the campus. These non-open universities may not provide any activities or student services via the internet or other types of technology. For example, disabled students must attend class everyday so the DSS centre can provide suitable services to help with their participation, such as providing sign-language interpreters, note takers and tutoring. These services appear to adhere to the face-to-face method as the disabled students can communicate and directly receive services from the DSS centre staff when they come to university. These services seem to be a feature in non-open universities, whereas in open universities most of the DSS centre services are based on provision via technology.

The study by Thompson (2008) shows that support services by a face-to-face method seems to be the primary source for most students when they come to study at university. Robin (2010) also points out that, when students start university, they need to form relationships with academic superiors they can trust, in an atmosphere that differs from secondary school. As the face-to-face services provide for these needs, the university staff may support not only learning and the participation in activities but also the coordination between students and staff to build confidence, friendship and networks.

Regarding the services for disabled students through the face-to-face method, this study found that the interviewee from the open university had had positive

experiences. Although this student's university provided services to disabled students via virtual methods based on distance learning, he was able to meet the DSS staff by face-to-face service method. This is because such a method potentially provides the staff with a greater understanding of the situation of the learners. Moreover, a previous study by Stein (2013) indicated that psychologically disabled students felt positively towards the flexibility offered by this service method of the DSS centre. On the other hand, findings from the study by Barnard-Brak and Sulak (2010), which investigated face-to-face accommodations among college students with disabilities, found that disabled students appear to prefer a virtual service method (online services) more than the face-to-face method. This was due to the fact that they did not need to disclose their disability, and avoided issues surrounding stigmatisation and friends' negative reactions upon learning about their disability.

The virtual service seems to be an important method in supporting the learning of disabled students, as this method is flexible and can be delivered to students who are not able to participate in on-campus education. Kennedy et al. (2008) support this with the assertion that using a technology-based service for disabled students has advantages as it is more accessible, convenient, and productive and it closes the gap in remote areas for people who have limited access to the campus. A study by Huo and Hong (2013) noted that the modern services address the weakness of traditional service on standard work places and hour services as modern services have flexible services and facilitate students anytime and anyplace. It seems that modern services address the main problems of disabled students in Thai the context.

Although using virtual service methods in open universities may be convenient for disabled students who are limited by their disability, they may face several problems, as this service method seems to be new in Thailand. In particular, staff at DSS centres are encountering a process of changing from traditional methods to a dependence on several types of technology. Providing support services in academic areas and information about the services of the DSS centre via the internet appears to be unclear and difficult to access for disabled students. In

addition the centres appear to be unaware of the principle of accessing information for people with disabilities; as a result the internet may not be accessible for all users. This is because the DSS centre may not be familiar with providing suitable services for disabled users. It may be possible that knowledge regarding the provision of suitable services is not pervasive, thus service providers may not realise that disabled students are in need of support. Therefore, these situations appear to be barriers in accessing information; for example, graphics that have been used on the website may be too difficult to read for the visually impaired and videos may not have captions, which proves difficult for hearing-impaired students. Moreover, this study found that interviewees from open universities did not understand information about learning and needed to access this information by alternative methods. In addition, DSS centres also need alternative communication methods to help disabled students with queries via methods such as telephone calls, emails and applications so the students can ask how to receive clear information regarding learning.

- ***Means of implementation in providing DSS to disabled students***

Providing supported learning for disabled students in non-open and open universities appears to be different in terms of the implementation and tools utilised. The means of implementation refers to staff members in several systems, such as the staff of the DSS centre, volunteers and buddy system (peer support). The tools for providing services for disabled students are defined by several examples of technology, including the telephone, the internet, and a number of applications for the mobile phone. The differences in implementation and tools when providing services relate to differences in service methods discussed above. As there are non-open universities that use the face-to-face method, staff members of the DSS centre appear to be the main means of implementation. On the other hand, open universities provide services by the virtual service method, therefore, technology appears to be a more important tool for providing services to disabled students.

Staff members are an important means of implementation in the face-to-face service method, especially when this service method is used for disabled students

in the DSS centre of a non-open university. The use of technology in the virtual service method has become a provision of services that students, including those with a disability, prefer to use due to its convenience and accessibility. But the technology may provide inflexible and inappropriate services to all disabled students. The staff members could address this situation by using their own experiences as highlighted by Robbins (2010), who pointed out that staff members have experiences that could address various situations and seek suitable services for the students. In addition, the findings of Murray, Flannery and Wren (2008) show that interaction between the staff members and students leads to a deeper understanding and increased experience of the support services. Moreover, some DSS centres in non-open universities provide walk-in services for disabled students, whereby they can be seen to immediately without an appointment depending on the situation. Overall, such an approach offers flexibility for students on campus when requesting and arranging support services, resulting in students receiving informal support for their unforeseen circumstances.

On the other hand, open universities use technology to provide services of the DSS centre to disabled students in different locations. There are various technologies, such as the telephone, the internet, and applications for smart phones, utilised as tools for support services. Additionally, open universities tend to design the system so that it can operate with these tools, making it easier for students to understand and access the information by themselves without the necessity of face-to-face services and the support of staff members. The services of the DSS in open universities can be illustrated in many ways, for instance, making an appointment via the website or telephone, counselling via telephone, providing information about the centre including the registration method, application service processes via the website, and applications on the smart phone. Moreover, there are numerous disabled students who use technology in a variety of ways and receive services from the DSS centre. Thus, there is evidence to suggest that technologies used by the DSS centre helps disabled students access their services.

However, Bitner, Zeithaml and Gremler (2010) claim that, although services via technology have benefits, such an approach reduces human contact, which relates to the human relationship perspective. In addition, Summers, Waigandt and Whittaker (2005) claim that the lack of face-to face interaction can leave students feeling isolated from each other and from their instructors. Within these topics, although I agree with the researchers' findings, I believe that, by using technology, the DSS centre can challenge these issues by providing social activities for disabled students, which enable students to form relationships with new people and increase their wellbeing and quality of life (Johner, 2011).

In conclusion, this study found that the differences in DSS services between non-open universities and open universities have three important aspects, which are interrelated with the services provided by the DSS centre; the learning system, the service method, and the means of implementation and tools of the services utilised by the DSS centre. Non-open universities base their learning systems on attending classes and receiving knowledge from lectures, resulting in a learning system that seems to influence the DSS centre in providing the face-to-face service method to disabled students. Moreover, the means of implementing this service method refer to the staff members of the DSS centre. In open universities, the learning system is based on distance learning; the teacher and learner are in different locations, meaning the virtual service method is utilised to support the learning of students. Also, the DSS centre uses this service method with disabled students through tools created by technology.

5.5.4.2 The differences in DSS access for disabled students by timeline

Both non-open universities (which refer to universities with entry requirements) and open universities in Thailand offer a range of services for disabled students from pre-entry until their final year of study is completed. As noted in the diagram (figure 5.3), this includes the period before entering university, the first year of university, the following years (second/third years), and the final year, with these being distinct in terms of learning, activities, and academic requirements and graduation.

Accordingly, as previous studies have noted, it is incumbent on students to achieve the expected objectives at each stage of the course duration effectively (Connor,

2012; Gilson & Dymond, 2012; Hadley, 2007; Hall & Tinklin, 1998; Hopkins, 2011). In this study, students were asked in the questionnaire and in-depth interview about the services in each time period identified, which was separated into the four sections summarised in Figure 5.4 below.

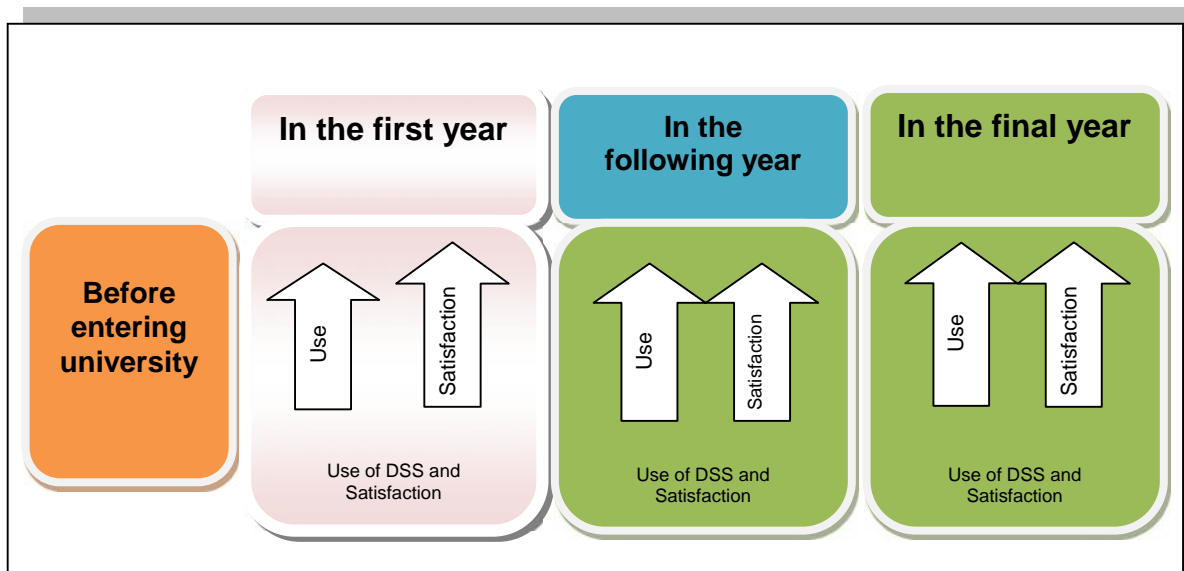


Figure 5.4 Differences in support from DSS for disabled students by time period and use of DSS and satisfaction of disabled students

The first section is the time before entering university. The data in this section is from in-depth interviews only (see Chapter 4, section 4.3.1 the interviews of these four students), as the students were not asked about the time before entering university in the questionnaire.

The second section relates to the DSS centre in the first year of study and shows the use of the DSS and the satisfaction of respondents according to the questionnaire. Example of these services is the new student orientation and registration service, the enrolment for the module service and registering with the DSS database. This study found that three-quarters of the respondents used the DSS and were satisfied with the services (see chapter 4 Table 4.8 for this topic area or Appendix K the Use of the DSS centre and Satisfaction towards all of services).

The third section relates to the DSS providing services to the disabled students after the first year, which this study defines as in the second and third (following) years. Thus, these services could be provided to the students at any time depending on the needs of the students, and could include accommodation services, assistive technology services, accessibility information services, social skills training and/or university activities. This study found that the services were used by many respondents and they were satisfied with these services (see chapter 4 Table 4.9-4.16 for each topic area or Appendix K the Use of the DSS centre and Satisfaction towards all of services).

The last section relates to the DSS centre in the final year, and it shows the use of the DSS and the satisfaction levels of respondents according to the questionnaire. Examples of the services that most Thai universities appear to provide for students in the final year are those relating to job counselling, which include advising on, searching for and planning a career, job vacancies and finding employment (see chapter 4 Table 4.17 for each topic area or Appendix K the Use of the DSS centre and Satisfaction towards all of services). The detail of differences in support from DSS for disabled students by time and use of DSS and satisfaction of disabled students will be presented in the next section.

- ***Services for disabled students before entering university***

Services for disabled students before entering university relate to the provision of pre-tuition guidance through the DSS centre of each university. The services in this stage can be provided to students in several ways; for instance, providing information about university and application process, additionally, providing transition programmes for disabled students.

Information about universities and courses, including the services provided by the DSS centre, can be obtained via university websites, social networks, leaflets, and application process guides, as well as through the pre-entry orientation programmes provided by universities and DSS centres. Research by Lefever and Currant (2010) indicates that these activities tend to be useful for disabled students, as they can identify any unexpected situations and barriers in terms of

residence arrangements during their course, classrooms, and other academic resources. Moreover, students are able to design and request support services from the university and the DSS centre. The provision of pre-university attendance services has been shown to be useful for disabled students in that they are given the opportunity to evaluate the support services provided by the relevant DSS centre before making their final decision on which university to attend. Meanwhile, meeting the students before they enter university allows DSS centre staff to understand the needs of each disabled student and to provide them with suitable services when they formal beginning their university courses as seamlessly as possible (Hall & Tinklin, 1998). This supports previous research findings which have shown that visiting universities and discussing support prior to attending are helpful in enabling universities to provide appropriate services for new disabled students.

Although providing services for disabled students before entering university seems to be crucial, institutions in Thailand appear to have limited services in this respect. As a result, disabled students may encounter difficult situations, such as a lack of information on universities, learning systems, courses, and application processes. These factors are often critical to the university selection process. To use an example of this situation that was found in this study, an interviewee from an open university explained that University A did not have support services for disabled students and the application form did not have a disclosure of disability section. As a result, they experienced a delay in accessing services from the DSS. Moreover, another interviewee from a non open university had a similar situation regarding accessing DSS services, as University B did not provide any support from the DSS during the application process and their application form also did not have a section for disclosing disability.

Another service provided for disabled students before entry to university is the transition programme from secondary schools to HE institutions. Currently, the notion of 'transition services' in Thailand does not generally appear to include any such support for disabled students transferring from secondary school to university. This assertion is empirically supported by Autayota (2015), who studied the

development of support services models for student with special needs in HE in Thailand. In the case study of Chiang Mai Rajabhat University, the study showed that the transition programme was not used for supporting disabled students coming to university. This result is similar to those obtained by Hongngam (2014) in a study on the administration of transitions to HE for students with disabilities in secondary education. Universities and DSS centres in Thailand are, however, engaging with disability associations to reach out to potential students. The disability associations in Thailand, especially the association of visually impaired people, therefore appear to play an important role in supporting disabled students to attend university. Various support activities are offered before entering university in cooperation with universities and their DSS centres, and other organisations (Sirirungruang & Ratanasakorn, 2010).

Although the transition service for disabled students in Thailand does not appear to be widespread in schools and universities, students can approach various associations for people with disabilities for support. Not all associations are as involved as the association for visually impaired people in supporting disabled students to study at university, however. Given that not all associations have the same capability to offer support, a transition programme needs to be developed that can support all disabled students. This assertion is empirically supported by Hongngam (2014), who states that the notion of 'transition services' appears to be new and not widespread in supporting provision for disabled students in Thailand, thus this idea needs time to take root, as well as more support from the government.

In summary, the provision of services for disabled students before entry to university, such as information about universities via websites and assistance with the application process, appears to have little support in Thailand compared to Western nations such as the UK and US. The information on university websites appears insufficient, for example lacking in information about DSS centres and the support available for disabled students attending university. Moreover, transition services for disabled students appear to be a new concept in Thailand. Although the universities have an alternative way for providing services the students through

their connections with various associations for people with disabilities, it appears that the support services for prospective students remains inadequate.

- ***Services for disabled students in first year***

Providing services to first-year students appears to be essential to disabled people, as they require support from the beginning of their journeys into university life. Previous studies (Woosley, 2003; Fitzgibbon & Prior, 2006) focused on the experiences at the beginning of university studies, which appear to be crucial to the preparedness and integration of disabled students into university life. Gilson and Dymond (2012) state that students need to acclimatise to university learning, and that the DSS centre may help by supporting students at the start of their path via arranging activities for first week, induction, registration and enrolment services, and providing an orientation programme. This study found differences in the provision of services for disabled students in the first year, details of which are presented below.

The findings from the online survey in this study show that more than 60 per cent of respondents used the induction, registration and enrolment service areas. It appears that respondents were attracted to these service areas as they are intended help new students, such as those in their first year, who need guidance in a new environment that may differ from that in a secondary school (Hadley, 2007). That over 60 per cent of respondents used the induction, registration and enrolment service areas may relate to their visibility and this finding is similar to that from the research undertaken by Sujirakul (2009) and Tieammanee (2009). Their findings show that disabled students felt satisfied with most levels of the induction, registration and enrolment service areas, especially those provided for registration and enrolment. The students in these studies stated that this was because these services, being placed within the DSS centre, were specifically helpful for students rather than the general services offered (Sujirakul, 2009; Tieammanee, 2009).

The interview results from this study found that services for disabled students in the first year in Thai open universities and non-open universities appear to be

different. University A and University B are open universities. University A has an education system and activities based on distance learning, whereas University B offers a combination of distance and classroom learning. Providing the orientation programme for new students appears not compulsory, and it is provided via video conference. Two interviewees explained that this activity did not seem to be attractive or encourage participation. University C and University D are non-open universities and provide education and activities based on campus attendance and living. However, both of them are different in providing service for new students, for example, the orientation programme service was not provided for the post graduate student. The situations mentioned above confirm that each university has different strategies for providing support for disabled students. This concurs with the study of Autayota (2015), which also showed that each university in Thailand has different strategies for provision support services for disabled students in HE and each department in university also have their own policy related to student services.

The situation of different policy of each university for providing services to disabled students appears to relate also to accessing the services of the DSS centre. As this study found, one interviewee, who received services from the DSS centre at the beginning of the first year, such as attending the orientation program, also continued to receive services. On the other hand, some interviewees did not attend the orientation programme, thus it seems that these interviewees lack of information about access to DSS support services from the university. Thus, delay in receiving support from the DSS centres affected the academic student life of these interviewees. For example, the study confirmed that some interviewees faced difficulties in registration and enrolment modules, and the provision of financial support from university. This finding is congruent with the research carried out by Hudson (2013), who indicates that the delay in accessing support services from the DSS for disabled students impact on their academic achievement. In contrast, Lightner et al. (2012) found out that early access to support from the DSS benefits the academic support for disabled students. Moreover, delay in access to DSS support services leads students to use informal services that come from

family, peer and the faculty staff, which interviewees stated was required because of the limitation or insufficiency of formal DSS Centre services.

- ***Services for disabled students in the following years***

Services for disabled students in the following years relate to students in the second and third years of study. The expectations of students in the following year appeared to change from the first year, as it seems to be a time to consider their new objectives, as can be seen from some students focusing on their interests and choosing a major (Panganiban, 2016). However, Noel-Levitz (2013) states that some students after the first year were still searching for purpose and meaning in the selection of a major, new friendships, a career of interest, and financial solutions for their educational and living expenses and debt. It appears that the purpose of the students at this stage differs very little from their purpose in the first year; however, they do face new challenges in the following years.

Disabled students in the following years in Thailand still need to focus on their academic studies and different cultural and personal relationships. This is supported by evidence from the interviews in this study, which confirmed that most interviewees felt that they needed continuing support for their academic studies from the DSS centre during this period. This result is similar to those found in the research undertaken by Phoommisittiporn (2013), who study also focused on the problems and needs of students with disability in HE in Thailand. An example of the need of supporting from the DSS centre by the interviewees was identified as the need of assistance for registration each term, support for accessing academic material, such as text books and files in Braille version or .doc file versions. Additionally, visually impaired interviewees need support from the DSS in connection with tutor requests for information.

The respondent's suggestions provided from the online survey and interviewing of four interviewees also confirmed they needed support in training skills and participation in activities available at the universities. However, it appeared there is limited support from the DSS centre, due to their lacking of the staff. As a result, disabled students need to seek assistance themselves to participate in university

activities. For example, the visually impaired student needed to find a new friend from the university activities as the DSS centre did not have enough staff to provide support in attending university activities. This result is similar to those found in the research undertaken by Pengpae (2010) and Tieammanee (2009), who studied supporting disabled students in HE in Thailand, and found that the number of staff and professional for services is the one of the main problems related to providing services for disabled students in HE.

- ***Services for disabled students in the final year***

Services in the final year provide support for disabled students who at this stage of their learning process. In Thailand, students on a full-time undergraduate course in a non-open university have to study for four years and have to undertake an internship for about four to six months in the final year. For some majors, however, students have to study for more than four years but the internship is still compulsory, for example, if they are studying to become a doctor, teacher or engineer (see Chapter 2, section 2.2.2 Education system in Thailand for more detail). Moreover, if students pass the internship course, support services for the transition to employment are also considered needed for disabled students (Wongkom, 2012).

Consequently, disabled students need to ask the DSS centre to provide appropriate services during the internship process. Wongkom (2012) states that the DSS centre should pay more attention to supporting disabled students during their internship, as they are moving between various parts of the faculty, the DSS centre and another organisation outside the university. The connection between these organisations is helpful for finding appropriate places for an internship for the disabled students. The faculty and the DSS centre need to provide information about the students to the organisation. However, in Thailand there is still negative views about disabled people, such as these people are unable to undertake internships and/or work, an assertion that is supported empirically by Pengpae (2010). This negative view may lead to difficulty in finding internship places for disabled students, thus it is crucial that the faculty and the DSS centre help the students, as the life on an internship appears to differ significantly from life on the

campus, in that an internship seems to be similar to working. Although the DSS centre provides counselling before students undertake an internship, it seems that there is no intensive course available to prepare disabled students before they undertake an internship, as the faculty uses the same process as for non-disabled students, such as meeting an advisor before undertaking an internship.

Open universities in Thailand do not have internships for students as they use the distance learning system. This study found, however, that interviewees from open universities want their university to have an internship programme as there are advantages for improving disabled students' skills. After finishing internships, Thai disabled students move to the last part of their study at university, which is the actual transition to employment. Kandiko and Mawer (2013) suggest that students study at university to improve their career prospects, which helps with their future career enhancement. Moreover, disabled students have similar expectations about career opportunities when they graduate. In Thailand, disabled people may have limited opportunities for employment; therefore, disabled students would like to use their degree to help them to gain a good career. Regarding the support services from the DSS centre during the transition to employment, this study found that interviewees need support from the centres, which they consider should pay more attention to helping disabled students to enter employment via job counselling.

However, a study by Pengpae (2010) found that many organisations in Thailand do not want to cooperate with DSS centres in helping disabled students to gain employment, as employers are likely to want to ensure that students are able to lead an independent and self-reliant life without overdependence on others. Although the Thai government has announced several laws and uses various methods that relate specifically to helping disabled people to enter the labour market, this does not appear to have improved work opportunities for disabled students. This result is similar to that from the research conducted by Namsiripongpan and Tupwong (2010), whose study was based on a critique of policies and regulations regarding disabled people in Thailand, including equality in job opportunities and discrimination. The study found that disabled students still

experience problems with entering the job market, as Thai society does not appear to accept them.

The lack of career opportunities for disabled people in Thailand may be the reason that disabled students use the job counselling service area in DSS centres. The findings of the online survey show that over 50 per cent of respondents had received these services from a DSS centre, which was the second highest percentage among the different services provided by DSS centres (the most popular services were the induction, registration and enrolment service areas). This result appears to be similar to the research conducted in a university in Thailand by Tieammanee (2009), in that a high percentage of respondents used DSS job counselling services for disabled students at university. There was a high percentage of use of this service and this may be because disabled students need to be aware of career opportunities when they graduate from HE, so they are interested in the job counselling services regarding entering employment. This is because disabled people in Thailand have few opportunities to enter the job market given their many problems (Pengpae, 2010; Siriwattanagul, 2010); one reason relates to the negative attitude of employers about the ability of disabled people, as mentioned in the previous paragraph.

Moreover, the findings in this study show that the job counselling service area was used by many respondents and that they were satisfied with this service from DSS centres; however, more than half of the respondents reported having encountered obstacles to accessing job counselling services. Some respondents mentioned obstacles such as the lack of in-depth information from DSS centre staff about applying for internships, training and jobs; additionally, staff sometimes did not provide clear information relating to the needs of the respondent. Therefore, in order to address this situation and provide a better-quality service for disabled students in the area of job counselling services, DSS centres may need to train staff in providing information about job counselling for disabled students. For example, DSS staff might improve skills such as searching for information on the internet about jobs for disabled people, and connect with organisations, career centres in universities etc., that can advise about such jobs. These organisations

may have more information, especially those that seem to offer services specifically for disabled people relating to finding a job, a vocational training course, etc. (Nakthuan, 2015).

It can be seen that services for disabled students in their final year seem to be complex, as DSS centre tend to provide different services for students before they enter university, in their first year and in subsequent years. As DSS centre focuses not only on disabled students and their environment at university, such as classmates and lecturers, but support students in their final year, centre also need to cooperate with organisations outside the university. This means that DSS centre needs to ask companies to offer internships and career opportunities to students; students may be concerned about internships outside university. In addition, disabled students in their final year are about to graduate and enter the workplace, so concern and stress about making the transition to real society outside university are possible.

In summary, disabled students need different support for their learning and student life in each year of HE study (before entering university, in their first year, and in subsequent years, including their final year). However, DSS centres in Thailand appear to offer a limited range of services for these students, for the reasons that have been explained. In order to support the achievement of disabled students in HE, DSS centres need to consider providing more suitable services to support students in each year; this will ensure that their changing situations and aims are addressed.

5.6 Perspectives of disabled students with respect to the advantages and disadvantages of the DSS centre

Regarding the third research question in this study, disabled students were asked what they thought the advantages and disadvantages of the DSS centre were. The findings from the online survey show that respondents felt that DSS centres offered various advantages for them. The first advantage mentioned related to help in terms of receiving financial support from the university. It appears that this support was a popular topic for Thai disabled students as previous research findings are

similar to those from this study. For example, Sujirakul (2009) and Tieammanee (2009) also found that most disabled students reported that they received financial support for their studies via the DSS centre rather than other services. It could be considered that disabled students are interested in financial support from the DSS centre because most disabled students in Thailand appear to come from families who have suffered financial hardship, so they need financial support for tuition fees and to cope with the cost of living (Aticomvitaya, 2012). Moreover, physically impaired students incur high housing and travel costs, such as costs for accessible homes and taxis for going to university, as in Thailand there is little accessible accommodation and transportation. In addition, a study by Phoommisittiporn (2013) found that hearing impaired students had problems associated with the cost of studying at university. Therefore, financial support from the DSS centre appears to help respondents and they are able to address their financial problems through this support service.

The second advantage of the DSS centre from the respondents' point of view included support with their social life at university, for example, suggestions on student life at university and participation in university activities. Awareness of the support for disabled students in their social life at university seems to show that students not only need support in their academic lives, but that support in their social lives is also important when learning in HE. Participating in social activities could also help disabled students in their academic studies; for example, students may need informal help from classmates in their assignments. Moreover, studies by Phoommisittiporn (2013) and Maneerat (2016) found that disabled students in HE need social support from the DSS centre as they need to be accepted by their non-disabled classmates; as a result, disabled students need to participate in activities inside and outside class. Supporting disabled students in their social lives is important, so DSS centres could try to highlight activities in which there is integration between disabled and non-disabled students. If disabled students do not have problems in their social lives at university they can focus on their studies and this will have a positive impact on their academic lives. Although supporting disabled students to participate in social life at university leads to benefits for the

students, the literature review found that DSS centres in Thailand seem to offer disabled students more support in academic life than in social life.

Furthermore, the online survey in this study found that DSS centres offer advantages in terms of their association with several other organisations and can collaborate with these organisations in supporting disabled students in various ways. Therefore, disabled students felt confident about contacting an organisation by themselves as it seems that DSS centres offer back-up and support for them. In the Thai context, disabled people do not seem to have the opportunity to express their feelings to anyone and receive assistance based on the Thai society charity model (Punpuing, 2010). Therefore, disabled students seem to lack the confidence to contact non-disabled people and others such as peers, lecturers and university faculties as they may feel that others do not understand their minds and needs. In the general disabled student context, this lack of self-confidence is also shown by disabled students appearing to have problems with expressing their feelings and requesting support from others (Sawaidee, 2015). For example, respondents felt confident that the DSS centre might introduce them and provide information about their disabilities to non-disabled people so that they might request help from classmates at university. It can be seen that DSS centres not only give disabled students confidence in connecting with other people, but in the bigger picture also create awareness about disabled students to non-disabled people in many ways. For example, DSS centres provide information about disabled students to their peers, lecturers, and other university staff via training, workshops, activities, etc. Therefore, these people may understand disabled students' limitations and accept inclusive learning with disabled students, which could help the students succeed academically and better integrate into society.

Moreover, this study found that respondents felt that the DSS centre was not beneficial for users, while some felt they did not need the services offered by the centre. There were many reasons for the respondents not needing support from the DSS centre and not being aware of its possible advantages. For example, the respondents were having certain limitations relating to their disabilities, the respondents not wishing to be identified by their disabilities, additionally, the

respondents preferring informal support so as to be able to study and participate in activities without any problems. These reasons may result in the respondents not needing support from the DSS centre and not being aware of the possible advantages of using the centre. Moreover, it might be that disabled students are not aware of the advantages of the DSS centre, which could be reflected in how the role of the DSS centre is portrayed to the public and to disabled students. This may be because the DSS centre does not present its role very well or advertise itself to students in terms of how it can help them at university, or with access to the centre. If disabled students understand the DSS centre's role, they may start to receive its services and become aware of the advantages of using it (Hudson, 2013). Therefore, DSS centres should adopt a proactive strategy, such as advertising their work through the internet, newspapers or television to raise people's awareness. This strategy may present a clearer view of the DSS centre's role to the public and help disabled students to find out more about the services offered by the centre and to receive such services.

To sum up, it can be seen that respondents gained advantages from using the DSS centre in various dimensions. The centre not only offers academic advantages but also advantages in receiving financial support from the university, supporting disabled students in their social life at university and helping them to connect with many other organisations. However, there were some respondents who felt that the DSS centre was not beneficial for users. The reasons for this may relate to the fact that they had few limitations associated with their disabilities, so did not need support from the DSS centre. Additionally, the DSS centre may not portray its role well to the public; as a result, disabled students do not understand the DSS centre's role and therefore appear to be denied access to the centre's services.

5.7 Perspectives of Disabled Students about specialist DSS Centre and General Services

Support services for disabled students are usually provided via general services that can be found in the context of university departments, but also in specialist services by DSS centres that emphasise students' support at university. General

services are common at universities; they are provided by many university departments and are open to all university students. As general services, however, do not focus specifically on disabled students, they can take time for students to access them and may not be easy overall to access, in various ways. Moreover, staff members at general services may not be specialists in the field of disability. Therefore, such professionals may not understand some of the specific aspects relevant to disability and might thus provide inappropriate care for disabled students. This is supported by a study by Hong and Himmel (2009), which found that the faculty's lack of specific knowledge about disability legislation did not inhibit their willingness to work with students with disabilities or negatively shape their attitude towards them. It therefore appears that providing services for disabled students in a general service may not address the needs of the students, as the staff tend to not understand their needs.

Different ways of providing services for disabled students at university can be compared, to clarify the differences between general and specialist services. This comparison is summarised in Figure 5.5.

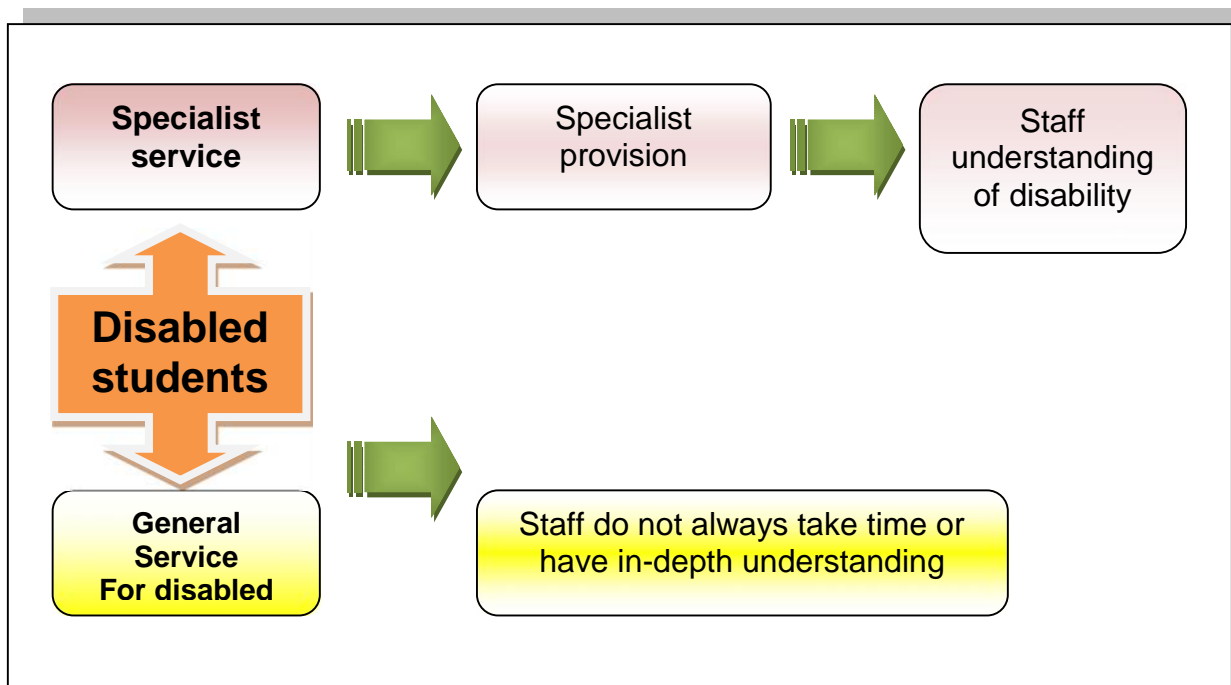


Figure 5.5 The perspective of disabled students of DSS specialist services, compared to experiences of general services

This study found that the interviewees preferred being supported in specialist services, such as DSS centres, rather than through general services. This result is similar to those found in the research undertaken by Bolt et al. (2011) on students' perceptions of accommodations in high school and college in the US, which also found that disabled students preferred separate services at university, as some disabled students had experience with support services from the DSS centre in a secondary school. This confirms that students seem to understand the process and advantages of the services of the DSS centre and prefer separate services to general services.

Moreover, the interviewees from this study explained that specialist services were more convenient for them; for example, disabled students who attended such services did not have to wait long, as the professionals at the DSS centres they attended did not need to offer support services to all the students at the university. Moreover, the interviewees also said that they preferred the professionals at DSS centres, as they seemed to understand the needs of disabled students better than other general staff members did. The interviewees' reason for preferring specialist supportive services for disabled students is that the various professional can support the needs of the students. This result is similar to the study on the history of disability services in HE by Madaus (2011). This study showed that such professionals can understand disabled students and are able to provide appropriate services to them, due to their accumulated specialist experience.

DSS centres are funded by universities, with the aim being to provide helpful services in a personnel manner, using devices and technology that can support the learning of disabled students, including relevant hardware and software, such as service from staff and specialist software for visually impaired. For example, this study has consistently indicated that visually impaired students received special software and hearing impaired students received support from an interpreter and note taker. However, as has been indicated, there are areas of services that are not supported through the general services available from other departments in the university. One of the main reasons for this appears to be that the professionals in the DSS centre may better understand the disabled student needs.

Although services for disabled student via specialist services of the DSS centre appear to provide support from specialists, and seem to understand the student needs better than those providing general services, insufficient level of services for the students seems to be main problems of the DSS centre. For example, in this study it was found that some disabled students need to find informal services for addressing their situation as there was a lack of staff and specialists in DSS centres. This situation has an impact on disabled students, and evidence gathered from the interviews shows that as a result of delay in receiving services, the students could not participate in activities. Thus, DSS centres at each university need to consider their ability for providing support disabled students and need to achieve a balance between the number of disabled students and the staff members at the DSS centre.

In conclusion, therefore, providing support services for university students needs to be developed with the many divisions in the university. However, there is a diversity of students, including disabled students who enter universities. Thus, it is important to consider providing support for these students by offering specialist services at DSS centres. Such centres need to foster an integrated university experience for disabled students, through a focus on including offering access to specialist, assistive devices and technology, and creating links between such centres and other organisations.

5.8 Conclusion

Conclusion the discussion chapter

This chapter has discussed the results of the online survey and in-depth interview in order to derive the outcomes in this chapter. In its essence, the chapter analyses the change on the views of the educational rights of disabled students in the international level and relate to education acts in Thailand. These situations impact on the development of DSS centres in Thailand, as an increase in the number of disabled students entering HE institutions means an increase in the number of institutions that support the students.

This chapter also discusses the conceptualisation of the term DSS by disabled students that relates to their previous experiences. Moreover, diagrams are provided in the chapter as a way of discussing the different methods of providing services to disabled students in non-open universities and open universities in Thailand. This information is based on the experiences of disabled students with regard to their accessing and using the DSS. This section emphasises the issue of disclosure of disability that appears to be the foundation for access to services from a DSS centre.

In addition, the evidence gathered from interviews demonstrates interesting aspects of obtaining both planned and unplanned services from the DSS centre, while there were some interviewees who could not access the planned services via the centre. Thus the role of informal services appears to be an alternative way of supporting disabled students who cannot access services from a DSS centre. This chapter also discusses key findings in two aspects of the DSS services method in Thailand that relate to the differences between non-open universities and open universities, additionally, differences of DSS by timeline. Moreover, this chapter also discusses the advantages and disadvantages of the DSS centre from the perspective of disabled students in order to understand their views.

The last discussion relates to the differences between support services for disabled students offered by a specialist DSS centre and general service. DSS centres were initially established with the aim of closing the gap that had been left by general services for disabled students at university, as there are many students who find it difficult to gain access to a university's general services. DSS centres can provide appropriate professional services for disabled students. However, a separate service for the students may not help with integration into student life. Thus the findings from the interviews were key to understanding the perspectives of disabled students with respect to both specialist DSS centres and general services.

CHAPTER SIX

CONCLUSION

6.1 Introduction

The increased number of disabled students in HE means that they have increased opportunities for study, and this increase has led to a change in supporting learning. DSS could be provided to support such students as DSS assist with academic achievement and student life in HE. Therefore, universities in many countries are aware of the need for DSS and study disabled students' experiences of DSS. Thailand has also experienced an increase in the number of disabled students in universities, which is a result of the awareness of the right to education of disabled students at the international level. This has led to the enactment of laws in Thailand that provide support for disabled students in HE, and this appears to be one reason for the increased number of disabled students in HE.

The focus of this chapter is to review the summary of the main findings of this thesis according to the objectives set at the beginning of the research. Firstly, disabled students' conceptualisations of DSS will be summarised. Secondly, disabled students' views on accessing disability support services will be presented. Finally, disabled students' views on the advantages and disadvantages of DSS will also be presented. Following this, the key contributions of this study will be stated. Finally, the chapter will conclude with implications of the research and recommendations for possible future research.

6.2 Summary of Main Findings

As mentioned in the introduction, this thesis aims to investigate the perspectives of disabled students on their experiences with DSS in HE in Thailand. Based on the results of the qualitative and quantitative approaches used, the key findings of this study are divided into three sections below which reflect the objectives of this research.

In accordance with this first objective, the online questionnaire asked the respondents about their conceptualisations of DSS. The responses show that most disabled students were aware of the DSS centre and had some experiences with DSS. Additionally, some indicated they had no one to help them or that they could learn by themselves and, therefore, did not need to use the DSS centre. The results from the interviews indicate that only one of the four interviewees identified the concept of the DSS centre, which was a centre for charity, or a healthcare centre for people with disabilities, providing guidance about rights, financial support and support information about learning in university. Although three interviewees did not indicate their concept of the DSS, they were aware of the importance of the DSS centre in assisting disabled students in HE.

To address research objective two, an online survey of disabled student respondents' use of the DSS centre services and their satisfaction level regarding each service was conducted together with interviews with four disabled students. In this study, the services were divided into ten areas provided by the DSS centre including the area of induction, registration and enrolment services, accommodation services, assistive technology services, accessibility information services, training skills services, health and well-being services, transportation services, assistant services, examination support services, and job counselling services. These services were used as the framework for the section of the questionnaire and interview schedules.

The findings from the questionnaire showed that in the area of induction, registration and enrolment services, respondents mostly used these services while the interview process revealed that some interviewees did not have an opportunity to participate in the area of induction, registration, and enrolment services. The reason for lack of opportunity to participate relates to the diversity of the education systems between non-open and open universities, such as distance learning and classroom learning. Moreover, the interviews revealed that the DSS centre in some non-open universities did not service the part time postgraduate disabled students, thus this is seen as a reason for lacking an opportunity to use the induction, registration and enrolment service area.

The main task of objective three was to describe disabled students' views on the advantages and disadvantages of disability support services. It is found most of respondents in this study felt that the DSS centre's services provided various advantages to their study in university. However, a few of the respondents did not feel the need for DSS services, such as they have other support. The first advantage of DSS in the disabled students' view related to supporting disabled students in applying process of receiving financial support from university. Second, it was found the DSS supported the students in achieving their academic goal via various services areas, for example providing support in classes, tutorial and examinations. Third, the centre benefits in supporting social life in university for disabled student was indicated to provide benefits in training courses and providing activities for the students. The students feel positive about participation in these activities, as it helped them build self-confidence and relationships with new people. Fourth, this centre also provides information about disabled students to other divisions and other people, this process provides benefits for disabled students as the process helps raise awareness and provide suitable adjustments for disabled students. Finally, some disabled students focused on the whole picture of the services of the DSS centre and this seemed to be positive.

6.3 Key Contributions

The research results have provided key contributions to knowledge in the area of DSS provision of services for disabled students in HE, which include the following:

First, the findings contribute to the knowledge of the current understanding of DSS centres in HE in Thailand. There appears to have been little research into the DSS area, although the literature at the international level focuses on various aspects of DSS centres. For example, there has been research at an international level focusing on several services in academic and student life for various types of disabled students in HE. On the other hand, that seems to differ from the Thai context, as previous research mostly focused on aspects of providing academic access to disabled students, focusing on some types of disabled students, such as visually-impaired students, hearing-impaired students, and physically-impaired

students. Moreover, previous research in Thailand did shed light on the establishment of DSS in Thailand and evaluated the provision of services to disabled students by the DSS centre and the students' satisfaction levels of DSS. In addition, the research was focused on large universities in Bangkok and metropolitan areas. It appears that there is a lack of information in the area of DSS services to disabled students from the middle and small universities in other regions of Thailand; however, this research can help to fill the existing gap identified in previous research. For example, although the respondents of this study included all types of disability and involved students from both non-open and open universities, it was difficult to access respondents in 31 universities that have DSS centres (see Chapter 3, section 3.8 limitation of the study, for more details).

Second, this study shows that disabled students' conceptualisations of DSS at an international level and domestically appears not to show the concept of disabled students. However, there were some definitions of DSS conceptualisation which were defined by the providers rather than the view of the students. Regarding this study, one disabled student presented the concept of DSS during the interview as related to a charity for disabled people and their right to appear in the centre, which offers information services about the rights of people with disability, financial support, and learning. Although the conceptualisation may not come from knowledge about the DSS, I consider that the interviewee might have some concept of DSS from experiences in the context of secondary schools, social welfare or charity from the government, rehabilitation centres, and hospitals in Thailand. These things appear to be recognisable for Thai people with disabilities and accessing medical services is likely to be familiar to Thai people with disabilities. Although the findings from interviews with other participants did not identify their conceptualisations about DSS, it appeared that the interviewees were aware of the advantages of DSS for disabled students in HE, as well as how the service can support their learning. In addition, respondents were not asked about the conceptualisations about the DSS via the online questionnaire, the respondents were aware of the advantages of the DSS and identified how the DSS provide advantages in HE.

Finally, the findings in this thesis gathered from the questionnaire and the interviews reveal that the use of DSS by disabled students differs from previous research conducted in Thailand. Most of the research into DSS for disabled students in the area of HE in Thailand used quantitative data. However, this study used a mixed method for collecting data, thus providing helpful understanding of the situation of disabled students in various dimensions. Specifically, the in-depth interview findings revealed that there are differences in the provision of DSS by DSS centres in undergraduate, postgraduate, non-open universities, and open universities. Moreover, most research into DSS in HE have focused on one non-open university and one open university; they do not appear to compare DSS with those available from another open university.

6.4 Implications of the Research

Firstly, this research clearly demonstrates the whole picture of providing support services for disabled students by the DSS centre and the use of the DSS by disabled students in Thailand's HE. The findings in this research were from respondents in several regions of Thailand, who were disabled students in non-open universities and open universities, and a mix of undergraduate and postgraduate students. The findings may be helpful for the policy makers who are responsible for providing support services for disabled students, such as the government, the Ministry of Education and universities. They could improve the development of DSS centres via supporting financial and personal needs of disabled students as this research indicates that the experiences of disabled students is that current DSS services in these areas are inadequate.

This study indicated that although the development of DSS centres in HE have increased over a decade, it appears there is not widespread awareness of DSS in Thailand. This may indicate a weakness in the promotion of DSS to society, such as including information about DSS in university handbooks and on university websites. These actions could be due to the marketing process, which makes it difficult to create awareness of DSS, especially among disabled students.

Therefore, the above weakness needs to be addressed by people who work with the DSS centre, such as the university president, director of the DSS centre, and

staff. These people are responsible for resolving the weakness, which can subsequently improve the DSS role by explaining that DSS plays an important role in supporting disabled students in HE.

Finally, few universities in Thailand provide information about DSS to students, which mean students may not be aware about how to access DSS at their respective university. Moreover, awareness of DSS before entering university will be helpful in relation to the continuity of services from secondary school. Additionally, some students may find it helpful to access support services before encountering crises in university life and learning. Therefore, promotion about DSS in each university in Thailand is important and the centres need to develop ways via connecting with departments in and out of universities in order to disseminate information about DSS for disabled students, such as providing information via websites, newspapers, and television.

6. 5 Future research

In relation to these research findings, there are still some open issues that remain to be addressed for new and interesting future work.

Firstly, in recent years, research into DSS in HE at the international level has focused on providing support services for various types of students with disabilities and the services include supporting the academic and university life of disabled students. As can be seen from the literature review, there were DSS for disabled students in HE in many countries which not only provide services to visually impaired students, physically impaired students and hearing impaired students. However, in many countries also provided services for autistic students, students with learning disabilities, and students with mental health needs. Such previous research presents useful information, especially providing services from DSS to visible and invisible disabled students, therefore, further research will be required to study DSS for various types of disabled students in other countries. For example, studies on DSS for autistic and students with learning disabilities appear to be increasing in the education system in Thailand, which includes HE.

Secondly, previous research seems to focus on providing DSS for learning in HE rather than supporting disabled student life in HE, therefore research in the future could study the students' life in HE. As the study in this area will provide valuable knowledge to aid the development of disabled students' life in university, this appears to be important part for supporting achieving in academic. For example, relationship with peers, faculty staff and tutors relate to creating connection, accessing to services and assistance from other people is important to disabled students.

Thirdly, in the interviewing of four disabled students in this study, I originally planned to collect the data from more than four disabled students to cover all types of disabled students, such as visually impaired students, hearing impaired students, physically disabled students and autistic students. This was because the researcher wanted to obtain data from disabled students in various aspects, as it could be that different type of disabilities may have different experiences and needs from the DSS. However, due the limitations of time and volunteers it was not feasible to conduct interviews with more than four disabled students for this study. Therefore, it is suggested that future research could interview all types of disabled students.

Finally, this study focuses on the views of disabled students in HE only. It is therefore recommended that future research building upon this study should consider students from other educational levels, such as disabled students in Thailand's Vocational Education. This is because there have been increased number of disabled students in the Vocational Education level and the Thai government have paid attention to the creation of DSS centre for supporting students at this level. Thus, it seems to be useful to a study to focus on Vocational education for the purpose of understanding the context of the DSS in this education level. In addition, the future research may compare the DSS services in the Vocational education level and HE in order to study the differences that convey information to improve the development of the services of the DSS in the future.

6.6 Conclusion

From this research that has been carried out, it is possible to conclude that the use of DSS centres can be an important tool to support disabled students in both academic and student life in HE. This study presented views of disabled students about their conceptualisations of DSS centres, coming from their experiences of using them, and about the advantages and disadvantages of DSS centres. Additionally, it was apparent that respondents were aware of and used services of DSS centres. The study of respondents' views on the advantages and disadvantages of disability support services in this study found that, although there were a few respondents who did not feel the need to access DSS centres, most respondents considered that DSS centres' services provided various advantages while studying at university. Moreover, the respondents were aware of the important advantages on provision services that provided support for the respondents and other disabled student in HE.

Regarding using the DSS, this study revealed disabled students' use and satisfaction levels of the ten service areas from the DSS. From the ten service areas, the area of induction, registration, and enrolment services from the DSS centre were most used by the respondents, while there were some interviewees who did not access these services as their universities do not provide all of the ten service areas. The reasons for this situation relate to the distinction in learning system, service methods, and the means of implementation between non-open and open universities as it relates to providing support services for disabled students in HE in Thailand.

This study has contributed to existing research in the area of DSS for disabled students in HE in Thailand and the limitations of this study were presented for future research. This study found that Thai research into the DSS area is different to studies taking place at an international level. Using the mixed method was useful in this study. For example, the online survey for accessing respondents in various locations and the gathering of data by the interview helped in understanding the disabled students' situations in Thailand. Moreover, this chapter also addresses new and interesting future research into various types of disabled students,

attention on supporting the students in student life in HE and focusing on other education levels in Thailand.

APPENDIX A: Online questionnaire

Perspectives of disabled students on their experiences with disability support services in higher education in Thailand

Section 1 Introduction

Dear participant,

You are invited to take part in this research study, which is part of my EdD. In Special Education Needs at University of Exeter, the UK. The purpose of the research is to explore and analyse the perspectives of disabled students about their experiences with disability support services in higher education in Thailand. As a participant, you will be asked to complete a set of questions concerning your personal demographic information and your experiences in the process.

Anonymity

All data will be analysed and presented anonymously. You do not need to provide your name unless you wish to volunteer for a further interview with the researcher.

Confidentiality

All research data will be stored securely and password protected on the researcher's laptop. Your individual information during this research study will only be available to the researcher and her supervisors and will not be shared with DSS services.

Completion of this survey indicates your consent to participant in this project.

Also,

If you would like to ask any questions before deciding on whether to complete the online questionnaire, you can contact me by emailing: sp374@exeter.ac.uk

Sucheera Polrachom

Thank you in advance for your kind assistance

Section 2 Demographic data

1. What is your gender?

- ☐ Male
- ☐ Female

2. Which one of the following age brackets do you fall into?

- ☐ 17 and under years
- ☐ 18 to 20 years
- ☐ 21 to 23 years
- ☐ 24 to 26 years
- ☐ 27 to 29 years
- ☐ 30 years and over

3. What is the nature of your disability?

- ☐ Hearing impairment (e.g. Hard of hearing, Deaf)
- ☐ Mental impairment
- ☐ Visual impairment (Low vision, Blind)
- ☐ Physical or health-related impairment (e.g. Physical disability, Cerebral Palsy, Muscular Dystrophy, Orthopedic, Poliomyelitis, Limb Deficiency, Epilepsy, Cardiac Conditions, Cancer, Haemophilia)
- ☐ Learning disabilities (e.g. Dyslexia, Dyscalculia, Dyspraxia and Dysgraphia)
- ☐ Autism
- ☐ Emotional and behavioural disorders (e.g. Bipolar Disorder, Depressive Disorder, Anxiety Disorder)
- ☐ Speech and language disorders
- ☐ Multiple disabilities (e.g. Deaf-blind)
- ☐ Other– please specify.....

4. In which university are you currently studying?

- ☐ Burapha University
- ☐ Chiang Mai Rajabhat University
- ☐ Chiang Mai University
- ☐ Chiang Rai Rajabhat University
- ☐ Kasetsart University
- ☐ Kamphaeng Phet Rajabhat University
- ☐ KhonKaen University
- ☐ Lampang Rajabhat University
- ☐ Mahasarakham University
- ☐ Maha Sarakham Rajabhat University
- ☐ Mahidol University
- ☐ Nakhon Ratchasima Rajabhat University
- ☐ Naresuan University
- ☐ Phranakhon Rajabhat University
- ☐ Ramkhamhaeng University
- ☐ Pibulsongkram Rajabhat University
- ☐ Srinakharinwirot University
- ☐ Rambhaibarni Rajabhat University
- ☐ Sukhothai Thammathirat Open University
- ☐ Roi Et Rajabhat University
- ☐ Thammasat University
- ☐ Sakon Nakhon Rajabhat University
- ☐ Ubon Ratchathani University
- ☐ Songkhla Rajabhat University
- ☐ University of Phayao
- ☐ Suan Dusit Rajabhat University
- ☐ Rajamangala University of Technology Lanna
- ☐ Surat Thani Rajabhat University
- ☐ Rajamangala University of Technology Thanyaburi
- ☐ Yala Rajabhat University
- ☐ Chaiyaphum Rajabhat University
- ☐ Other– please specify.....

5. In which faculty are you currently studying?.....

6. What qualification are you studying and in what year?

- ☐ Undergraduate year 1
- ☐ Undergraduate year 2
- ☐ Undergraduate year 3
- ☐ Undergraduate year 4
- ☐ Postgraduate Other-please specify.....

7. Where do you live?

- ☐ At family/home
- ☐ In private accommodation
- ☐ In university accommodation
- ☐ Other– please specify.....

Section 3 Awareness of the DSS

8. Are you aware of the Disability Support Service (DSS) Centre at your university?

- ☐ Yes
- ☐ No

9. Do you use the DSS Centre at your university?

- ☐ Yes
- ☐ No

10. If you do not use the DSS centre at your university, could you please say why: (please tick one)

- ☐ Didn't know they were there
- ☐ No need to use
- ☐ Have access elsewhere
- ☐ Reluctant to ask for help
- ☐ No interest in using
- ☐ Don't know how to use
- ☐ No-one to help
- ☐ Other (please say what).....

If you DO NOT use any of the services of the DSS Centre, please go to question 16 (Section 5)

If you use the DSS Centre, please continue with question 11 below (Section 4)

Section 4 Access to Disabilities Support Service and satisfaction with the DSS centre

11. How often do you use the DSS centre?

- ☐ Daily
- ☐ Weekly
- ☐ Monthly
- ☐ Occasionally/every so often (e.g. less than once a term)
- ☐ Other– please specify.....

12. Do you get financial support process from the DSS centre?

- ☐ Yes
- ☐ No

13. Do you use these DSS Centre services at your university?

Service	Yes, I use this service	No, I do not use this service
1. New student orientation and registration	<input type="radio"/>	<input type="radio"/>
2. Enrolment for the module classes	<input type="radio"/>	<input type="radio"/>
3. Registering with the DSS database	<input type="radio"/>	<input type="radio"/>
4. Finding accommodation	<input type="radio"/>	<input type="radio"/>
5. Providing information about adaptations to accommodation where necessary (e.g. toilet in building, lift, ramp)	<input type="radio"/>	<input type="radio"/>
6. Recording equipment	<input type="radio"/>	<input type="radio"/>
7. Borrowing hearing aids for hearing impaired students	<input type="radio"/>	<input type="radio"/>
8. Special software (e.g. Thai text to speech for Visually impaired student)	<input type="radio"/>	<input type="radio"/>
9. Providing information about supporting learning (Library)	<input type="radio"/>	<input type="radio"/>

10. Copies of overheads/lecture notes	<input type="radio"/>	<input type="radio"/>
11. Information about learning or news supplied on alternative format	<input type="radio"/>	<input type="radio"/>
12. Information in Braille or large size print	<input type="radio"/>	<input type="radio"/>
13. Orientation training on the university campus and surrounding area	<input type="radio"/>	<input type="radio"/>
14. Social skills trainings or activities (e.g. sport & recreational activities, social & cultural activities and community service)	<input type="radio"/>	<input type="radio"/>
15. Tutorials for some modules	<input type="radio"/>	<input type="radio"/>
16. Counselling for learning, assignments	<input type="radio"/>	<input type="radio"/>
17. Providing information for medical rehabilitation	<input type="radio"/>	<input type="radio"/>
18. Providing transportation for going to hospitals or rehabilitation centres	<input type="radio"/>	<input type="radio"/>
19. Buses and cars	<input type="radio"/>	<input type="radio"/>
20. Disability parking	<input type="radio"/>	<input type="radio"/>
21. Staff of the DSS centre	<input type="radio"/>	<input type="radio"/>
22. Interpreter for Thai Sign Language	<input type="radio"/>	<input type="radio"/>
23. Peer support	<input type="radio"/>	<input type="radio"/>
24. A note-taker	<input type="radio"/>	<input type="radio"/>
25. Provision of extra time in examinations	<input type="radio"/>	<input type="radio"/>
26. Provision of suitable exam places	<input type="radio"/>	<input type="radio"/>
27. Provision of assistances for examination	<input type="radio"/>	<input type="radio"/>
28. Careers advice and guidance	<input type="radio"/>	<input type="radio"/>
29. Career searching	<input type="radio"/>	<input type="radio"/>
30. Career planning	<input type="radio"/>	<input type="radio"/>
31. Information, job vacancies & finding employment	<input type="radio"/>	<input type="radio"/>
32. Other assistance and other specialist computer packages (please state what other assistance you use).....	<input type="radio"/>	<input type="radio"/>

14. If you use these services, how satisfied are you with your experience of the following?

1=Very dissatisfied

2=Dissatisfied

3=Neither satisfied or dissatisfied

4=Satisfied

5=Very satisfied

Service	1= Very dissatisfied	2= Dissatisfied	3= Neither satisfied or dissatisfied	4= Satisfied	5= Very satisf ied
1. New student orientation and registration	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. Enrolment for the module classes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3. Registering with the DSS database	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4. Finding accommodation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5. Providing information about adaptations to accommodation where necessary (e.g. toilet in building, lift, ramp)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6. Recording equipment	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7. Borrowing hearing aids for hearing impaired students	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8. Special software (e.g. Thai text to speech for Visually impaired student)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9. Providing information about supporting learning (Library)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
10. Copies of overheads/lecture notes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
11. Information about learning or news supplied on alternative format	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
12. Information in Braille or large size print	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
13. Orientation training on the university campus and surrounding area	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
14. Social skills trainings or activities (e.g. sport & recreational activities, social & cultural activities and community service)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
15. Tutorials for some modules	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
16. Counselling for learning, assignments	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
17. Providing information for medical rehabilitation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
18. Providing transportation for going to hospitals or rehabilitation centres	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

19. Buses and cars	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
20. Disability parking	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
21. Staff of the DSS centre	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
22. Interpreter for Thai Sign Language	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
23. Peer support	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
24. A note-taker	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
25. Provision of extra time in examinations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
26. Provision of suitable exam places	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
27. Provision of assistances for examination	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
28. Careers advice and guidance	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
29. Career searching	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
30. Career planning	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
31. Information, job vacancies & finding employment	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
32. Other assistance and other specialist computer packages (please state what other assistance you use).....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

15. Have you experienced any obstacles in accessing or using any of the services in this area of your university's DSS Centre? (please tick as many as apply)

- ☐ Introduction, registration and enrolment services
- ☐ Accommodation services
- ☐ Training skills services
- ☐ Health service
- ☐ Transportation service
- ☐ Assistant service (e.g. staff, peer, volunteer)
- ☐ Accessible information service
- ☐ Assistive technology service
- ☐ Examination support
- ☐ Job counseling service
- ☐ Other – please describe.....

If you have indicated that there are obstacles
please briefly describe any difficulties you have encountered

.....
.....
.....
.....
.....

Section 5 The advantages and disadvantages of the DSS

16. How important is your university DSS Centre to you?

- ☐ Very important
☐ Quite important
☐ Not very important
☐ Not at all important

Please briefly describe your reasons

.....
.....
.....
.....
.....
.....

17. What advantages and disadvantages do you get from the DSS Centre of your university?

.....
.....
.....
.....

18. Do you think the DSS Centre of your university needs to improve its services?

- ☐ Yes
☐ No
☐ Don't know

If yes, please give suggestions for improvement

.....
.....
.....

19. How important is the DSS Centre for disabled students generally at your university?

- ☐ Very important
- ☐ Quite important
- ☐ Not very important
- ☐ Not at all important

Please briefly describe your reasons

.....

.....

.....

.....

.....

.....

20. Do you have any other comments on the DSS Centre?

.....

.....

.....

.....

.....

.....

21. If you would like to be a participant in one of my interviews on the perspectives of disabled students regarding their experiences with disability support services in higher education in Thailand, please write your name and email address in the box provided and I will contact you as soon as possible.

.....

.....

.....

.....

.....

Thank you for your participation

APPENDIX B: Pilot questionnaire comment form

Questionnaire Comment Form

1. How long did it take you to complete the questionnaire?

เวลาที่ใช้ในการตอบแบบสอบถาม

2. Please comment on the questionnaire's overall.

ท่านมีความคิดเห็นต่อแบบสอบถามอย่างไร

Layout การวางรูปแบบ	Difficult ยาก	Neutral เฉย ๆ	Easy ง่าย
Number of questions จำนวนคำถาม	Long ยาว	Short สั้น	Suitable เหมาะสม
Order of questions ลำดับคำถาม	Not good ไม่ดี	Neutral เฉย ๆ	Suitable เหมาะสม
Clarity of the questions ความชัดเจนของคำถาม	Difficult ยาก	Neutral เฉย ๆ	Suitable เหมาะสม
Vocabulary/wording คำศัพท์/ข้อความที่ใช้ในคำถาม	Difficult ยาก	Neutral เฉย ๆ	Suitable เหมาะสม
Clarity of the instructions คำอธิบายหรือชี้แจงที่เข้าใจ	Not clear ไม่ชัดเจน	Neutral เฉย ๆ	Suitable เหมาะสม

3. Which question was found to be the most difficult to understand?

คำถามไหนที่ยากที่สุดสำหรับคุณ

No ไม่
Yes มี
(Please state the question number(s) ข้อที่ _____
(Please state the reason) สาเหตุ

4. Did you find any questions that you did not want to answer?

มีคำถามไหนที่คุณไม่ต้องการตอบหรือไม่

No ไม่
Yes มี (Please state the question number(s) ข้อที่ _____ (Please state the reason) สาเหตุ

5. Did you find any questions that you feel should be removed?

มีคำถามที่ควรจะต้องตัดออกหรือไม่

No ไม่
Yes มี (Please state the question number(s) ข้อที่ _____ (Please state the reason) สาเหตุ

6. Please provide any other suggestions about the questionnaire.

กรุณาให้คำแนะนำอื่น ๆ สำหรับแบบสอบถาม

APPENDIX C: Ethical approval certificate

MSc, PhD, EdD & DEdPsych theses.



Graduate School of Education

Certificate of ethical research approval

MSc, PhD, EdD & DEdPsych theses

To activate this certificate you need to first sign it yourself, and then have it signed by your supervisor and finally by the Chair of the School's Ethics Committee.

For further information on ethical educational research access the guidelines on the BERA web site: <http://www.bera.ac.uk/publications> and view the School's Policy online.

READ THIS FORM CAREFULLY AND THEN COMPLETE IT ON YOUR COMPUTER (the form will expand to contain the text you enter). **DO NOT COMPLETE BY HAND**

Your name: Sucheera Polrachom

Your student no: 600054263

Return address for this certificate: QG 1.1 Birks Grange, New North Road, Exeter, EX4 4GJ

Degree/Programme of Study: EDD Special Educational Needs

Project Supervisor(s): Professor Jane Seale
Dr. Hazel Lawson

Your email address: sp374@exeter.ac.uk

Tel: 07510704863

I hereby certify that I will abide by the details given overleaf and that I undertake in my thesis to respect the dignity and privacy of those participating in this research.

I confirm that if my research should change radically, I will complete a further form.

Signed

A handwritten signature in blue ink, appearing to be 'Sp', representing the student's name.

: date: 1 March 2015

Chair of the School's Ethics Committee
updated: March 2013

Certificate of ethical research approval

TITLE OF YOUR PROJECT: Perspectives of disabled students on their experiences with disability support services in higher education in Thailand

1. Brief description of your research project:

The aim of this study is to explore and analyse the perspectives of disabled students about their experiences with disability support services in higher education in Thailand. In relation to this aim my research objectives are to (1) examine disabled students' conceptualisations of disability support services, (2) To explore disabled students' experiences of access to Disability Support Services (DSS), (3) To explore disabled students' views on the advantages and disadvantages of DSS. The study will involve online questionnaires and interviews with disabled students in higher education in Thailand.

2. Give details of the participants in this research (giving ages of any children and/or young people involved):

The participants of this study will be disabled students in 31 universities in Thailand (The Office of the Higher Education Commission, 2012). These students refer to students with visually impaired, students with a hearing impairment, students with a physical disability and autistic students. Moreover, these students may have received services from DSS Centre in their university, which have developed support disabled students under policy of The Office of the Higher Education Commission, The Ministry of Education of Thailand. There are 2,050 disabled students at these 31 universities and anticipated response rates may be 15-20%. All may be approached for the survey phase of the study, via their DSS. Eight students will then be selected for interviews from volunteers at the survey phase.

Give details (with special reference to any children or those with special needs) regarding the ethical issues of:

3. Informed consent: Where children in schools are involved this includes both headteachers and parents). **Copy(ies) of your consent form(s) you will be using must accompany this document.** a blank consent form can be downloaded from the GSE student access on-line documents: **Each consent form MUST be personalised with your contact details.**

Chair of the School's Ethics Committee
updated: March 2013

The researcher will seek permission from each university by sending a letter to the president of each university or director of DSS Centre, outlining the project and seeking authorisation to conduct the study. Then, data collection by online survey will begin when approval is received from the president of the university. Information about the project will be included on the 'cover page' of the survey and respondents will be informed that completion of the survey implies their consent. In terms of interviewing, all participants will be asked to give informed consent. Furthermore, the consent form will state that all participants have the right to withdraw at any time during the study.

4. anonymity and confidentiality

The identities of all participants and the names of the universities will be kept anonymous in the thesis. The names of the participants will be not used in any document regarding the research findings. Instead, each participant will be referred to by a code, such as Student 1, Student 2, and Student 3, etc. In this way, the collected data will not be linked to any specific person. Moreover, all provided information will be strictly confidential.

5. Give details of the methods to be used for data collection and analysis and how you would ensure they do not cause any harm, detriment or unreasonable stress:

In my doctoral thesis, I will make use of a mixed methodology, including both quantitative and qualitative approaches. In the first stage, the researcher will use an online survey for disabled students regarding DSS in their university as the primary method of quantitative research. This method will collect information regarding impressions, attitudes, and opinions. These relate to the perspectives of disabled students regarding their experiences with DSS. In the second stage, the study will adopt a qualitative approach and the method of data collection will be individual in-depth interviews of students with disabilities via a face-to-face interview or an online interview by email or video-conferencing via Skype or Line Programme. These methods will provide a convenient way to meet participants who might be geographically dispersed.

In the first stage of the study, a questionnaire survey for disabled students will be conducted online. It is planned that the sample will include 31 DSS centres. Access to disabled students will be via the DSS centres that they attend. The researcher will write to the DSS centres by post, giving them information about the objectives of the asking them to pass on the survey URL to disabled students who are enrolled at their university. Disabled students will have access to the web survey for 6 weeks, and if they are interested in participating in the in-depth interview stage of the research project, they can submit their email for getting in contact with the researcher.

In the second stage, participants will be selected based on those who volunteer from the first stage and specific criteria (Latham, 2007), such as the inclusion of students with visual impairments, students with hearing impairments, students with physical disabilities and autistic students, as well as those who have and those who have not received services from a DSS centre. Following this, the selection process will be carried out by purposive method. A purposive sample of eight disabled students will be selected, divided into four specific types as follows: two students who are visually impaired; two students with hearing impairments; two students with physical disabilities; and two autistic students.

All data collection will be conducted in Thai language. The data analysis of the study will employ quantitative and qualitative techniques in accordance with the data instruments that will be used in order to draw together the different analyses. For the quantitative data analysis, the Statistical Package for Social Sciences (SPSS) will be used in order to generate descriptive statistics from the data of the students with disabilities. The qualitative interview data will be audio digital recorded, transcribed, translated, coded and analysed in relation to the research questions.

6. Give details of any other ethical issues which may arise from this project - e.g. secure storage of videos/recorded interviews/photos/completed questionnaires, or

The questionnaire and interview will involve information about impressions, attitudes, and opinions. These relate to the perspectives of disabled students regarding their experiences with DSS. All participants will be aware of the information that will be collected and the topics that may be covered. It is felt that the type of information collected is unlikely to cause harm or unreasonable stress to participants as it pertains only to their overall experiences of the service they have received or given. However, participants will have the right to withdraw if they feel under potential harm or stress.

All research data will be stored securely and password protected on the researcher's laptop and audio digital recording, and written data will be stored in a locked filing cabinet at the researcher's accommodation at Birks Grange Village, University of Exeter, and will be transported to Thailand when the researcher graduates. Moreover, these data will be retained for a period of 5 years and will then be destroyed.

7. Special arrangements made for participants with special needs etc.

The survey and interview will be accessible to participants, who will be students with disabilities. These will include two students who will be visually impaired, two students with hearing impairments, two students with physical disabilities, and two autistic students. The survey will highlight that visually impaired students will be provided with access to an online version of the survey that will be accessible in alternative of formats, such as .DOC, if they require receiving the

survey via email. Although the participants are disabled I do not consider them vulnerable in the sense that they are adults and given that they are at university, are relatively high functioning in terms of intellect and social functioning.

8. Give details of any exceptional factors, which may raise ethical issues (e.g. potential political or ideological conflicts which may pose danger or harm to participants):

I predict there will be no exceptional factors. This is because my topic focuses on the development and provision of education for disabled students, which is based on previous research. Moreover, question do not relate to political or ideological context. However, the researcher will maintain the anonymity of participants by using codes to refer to the participants and not linking any information to them.

This form should now be printed out, signed by you on the first page and sent to your supervisor to sign. Your supervisor will forward this document to the School's Research Support Office for the Chair of the School's Ethics Committee to countersign. A unique approval reference will be added and this certificate will be returned to you to be included at the back of your dissertation/thesis.

N.B. You should not start the fieldwork part of the project until you have the signature of your supervisor

This project has been approved for the period: 03.03.15 **until:** 28.02.16

By (above mentioned supervisor's signature):  **date:** 03/03/15


N.B. To Supervisor: Please ensure that ethical issues are addressed annually in your report and if any changes in the research occur a further form is completed.

GSE unique approval reference: D/14/15/33

Signed:  **date:** 19/3/15

Chair of the School's Ethics Committee

APPENDIX D: Participant consent form for interviews


**UNIVERSITY OF
EXETER**
GRADUATE SCHOOL OF EDUCATION
CONSENT FORM

Title of Research Project: Perspectives of disabled students on their experiences with disability support services in higher education in Thailand

The aim of this study is to explore and analyse the perspectives of disabled students about their experiences with disability support services (DSS) in higher education in Thailand. In relation to this aim my research objectives are to examine disabled students' conceptualisations of disability support services, explore disabled students' experiences of access to DSS and explore disabled students' views on the advantages and disadvantages of DSS. The participants of this study will be disabled students in universities in Thailand who may have received services from Disability Support Services (DSS) Centre in their university.

Data collection: In the first stage of the study a questionnaire for disabled students will be conducted online via a web survey. This consent form relates to the second stage of the study: in-depth interviews.

I understand that:

- there is no compulsion for me to participate in this research project and, if I do choose to participate, I may at any stage withdraw my participation and may also request that my data be destroyed
- I have the right to refuse permission for the publication of any information about me
- any information which I give will be used solely for the purposes of this research project, which may include publications or academic conference or seminar presentations
- if applicable, the information, which I give, may be shared between any of the other researcher(s) participating in this project in an anonymised form
- all information I give will be treated as confidential
- the researcher(s) will make every effort to preserve my anonymity

.....

(Signature of participant) (Printed name of participant) (Date)

One copy of this form will be kept by the participant; a second copy will be kept by the researcher(s)

For further information about the research or your interview data, please contact: Sucheera Polrachon, Graduate School of Education, St. Lukes' Campus, University of Exeter, Heavitree Road, Exeter EX1 2LU, sp374@exeter.ac.uk

If you have any concerns about the project that you would like to discuss, please contact the research supervisors: Professor Jane Seale (J.Seale@exeter.ac.uk) or Dr Hazel Lawson (H.A.Lawson@exeter.ac.uk)

Data Protection Act: The University of Exeter is a data collector and is registered with the Office of the Data Protection Commissioner as required to do under the Data Protection Act 1998. The information you provide will be used for research purposes and will be processed in accordance with the University's registration and current data protection legislation. Data will be confidential to the researcher(s) and will not be disclosed to any unauthorised third parties without further agreement by the participant. Reports based on the data will be in anonymised form.

Revised March 2013

APPENDIX E: The data collection/disabled student information approval form

Data collection/disabled student information approval form

This form is a part of the data collection for the research '**Perspectives of disabled students on their experiences with disability support services in higher education in Thailand**' by Miss Sucheera Polrachom, EdD students, University of Exeter, The United Kingdom. Please fill in the form if your university has been accepted for collecting data.

Section 1 Data Collection Approval

University.....

☐ Approval

☐ Reject (Reasons.....)

Section 2 The Number of Disabled Students in your university

Types of disabled students in university	Number
Visually impaired students	
Hearing impaired students	
Intellectually limited students	
Physical limited students	
Learning Disability students	
Speech impaired students	
Behavioural or emotional disorders students	
Autistic and multiple students	
Multiple handicapped students	
Total	

* Please return this form by post so that the data collection process can begin.

If you have any questions, please contact sp374@exeter.ac.uk

APPENDIX F: The online questionnaire leaflets

Invitation to Participate in A Research Project

"Perspectives of disabled students on their experiences with disability support services in higher education in Thailand"

By Sucheera Polrachom EdD students
from University of Exeter, the United Kingdom

Please access to the online questionnaire in this link

<https://www.surveymonkey.com/s/D8YRYDR>



Your individual information during this research study will only be available to the researcher and her supervisors and will not be shared with DSS services.

Any complaints about your participation in this project may be directed to
sp374@exeter.ac.uk

Thank you so much

✂	<p>Please give this Link to your disabled students</p> <p>https://www.surveymonkey.com/s/D8YRYDR</p> <p><u>Introduction for disabled students:</u></p> <p>Please access to the Link and respond the questionnaire online</p> <p>Thank you so much</p>
✂	<p>Please give this Link to your disabled students</p> <p>https://www.surveymonkey.com/s/D8YRYDR</p> <p><u>Introduction for disabled students:</u></p> <p>Please access to the Link and respond the questionnaire online</p> <p>Thank you so much</p>

APPENDIX G: The Letter of Introduction from The Royal Thai Embassy

TELEPHONE: 020 7584 4538/9
FAX: 020 7523 9896
E-MAIL: info@royalondon.com



OFFICE OF EDUCATIONAL AFFAIRS
THE ROYAL THAI EMBASSY
28 PRINCE'S GATE
LONDON SW7 1PT

ที่ 55003/ 1948

๑๐ มิถุนายน 2558

เรื่อง ขอความอนุเคราะห์ให้เก็บข้อมูลวิทยานิพนธ์

เรียน อธิการบดีมหาวิทยาลัยธรรมศาสตร์

ด้วย นางสาวสุชีรา พลราชมน นักเรียนทุน ก.พ. – พิจารทางการเคลื่อนไหว ได้รับทุนการศึกษาระดับปริญญาเอก ตั้งแต่วันที่ 7 มกราคม 2554 ปัจจุบันกำลังศึกษาระดับปริญญาเอก สาขา Special Education Needs ณ University of Exeter ประเทศอังกฤษ และทำวิจัยเรื่อง Perspectives of disabled students on their experiences with disability support services in higher education in Thailand มีความประสงค์ขอความอนุเคราะห์ให้เก็บข้อมูลวิทยานิพนธ์ ณ มหาวิทยาลัยธรรมศาสตร์ ได้แก่ 1) ขอทราบจำนวนนักศึกษาพิการแต่ละประเภทที่กำลังศึกษาอยู่ 2) การประชาสัมพันธ์แบบสอบถามออนไลน์ผ่านทาง ศูนย์บริการนักศึกษาพิการ (DSS) 3) การกรอกแบบสอบถามออนไลน์ผ่านทาง <https://www.surveymonkey.com/r/D8YRYDR> โดยนักศึกษาพิการที่กำลังศึกษา ณ มหาวิทยาลัยธรรมศาสตร์

สำนักงานผู้ดูแลนักเรียนในต่างประเทศอังกฤษ (สนร.) ได้พิจารณาแล้วเห็นว่า นทร. จำเป็นต้องเก็บข้อมูลจากองค์กรของท่าน เพื่อใช้ในการวิจัยและทำวิทยานิพนธ์ ซึ่งเป็นส่วนหนึ่งของการศึกษาระดับปริญญาเอก จึงขอความอนุเคราะห์ให้ นทร. รายนี้ได้มีโอกาสเก็บข้อมูลวิทยานิพนธ์จากองค์กรของท่าน ตามที่นักเรียนแจ้งขอมา

จึงเรียนมาเพื่อโปรดพิจารณา และแจ้งให้สำนักงานผู้ดูแลนักเรียนในต่างประเทศอังกฤษทราบเพื่อประสานกับ นทร. ต่อไป หรือติดต่อ นางสาวสุชีราฯ ทางอีเมลที่ sp374@exeter.ac.uk ด้วย จะขอบพระคุณยิ่ง

(นางสาวอรรณณ น้อยกักติ)

อัครราชทูต (ฝ่ายการศึกษา)

ประจำสถานเอกอัครราชทูต ณ กรุงลอนดอน

APPENDIX H: Interview Question Schedule

Section 1: Demographic information

1. Could you please introduce yourself?
2. What is the nature of your disability?
3. Why did you choose this university and major and tell me about process of application?

Section 2: awareness and use of DSS

4. How did you find out about the DSS Centre?
5. Tell me what financial support is available to you for your study at university
6. What service do you use of the DSS?
 - 6.1 Where do you live? Have you experienced any obstacles in **accommodation service**? If you have, what suggestions do you have as to how these obstacles may be overcome?
 - 6.2 How has the DSS Centre supported you with **introduction, registration and enrolment services**? Have you experienced any obstacles in this service? If you have, what suggestions do you have as to how these obstacles may be overcome?
 - 6.3 How has the DSS Centre supported you with **assistive technology services**? Have you experienced any obstacles in this service? If you have, what suggestions do you have as to how these obstacles may be overcome?
 - 6.4 How has the DSS Centre supported you with **training skills**? Have you experienced any obstacles in this service? If you have, what suggestions do you have as to how these obstacles may be overcome?

<p>6.5 How has the DSS Centre supported you with health service? Have you experienced any obstacles in this service? If you have, what suggestions do you have as to how these obstacles may be overcome?</p>
<p>6.6 How has the DSS Centre supported you with transportation service? Have you experienced any obstacles in this service? If you have, what suggestions do you have as to how these obstacles may be overcome?</p>
<p>6.7 How has the DSS Centre supported you with assistant service, such as staff, peer, and volunteer? Have you experienced any obstacles in this service? If you have, what suggestions do you have as to how these obstacles may be overcome?</p>
<p>6.8 How has the DSS Centre supported you with accessible information service? Have you experienced any obstacles in this service? If you have, what suggestions do you have as to how these obstacles may be overcome?</p>
<p>6.9 How has the DSS Centre supported you with examination? Have you experienced any obstacles in this service? If you have, what suggestions do you have as to how these obstacles may be overcome?</p>
<p>6.10 How has the DSS Centre supported you with internships and finding employment (Job counselling services)? If you have, what suggestions do you have as to how these obstacles may be overcome?</p>
<p>Section 3: The benefits of the DSS</p>
<p>7. How important is your university the DSS Centre to you and disabled students?</p>
<p>8. What's your opinion about the advantages and disadvantages of the DSS Centre of your university?</p>
<p>9. Are there any ways in which the DSS Centre could improve its services for disabled students in your university and universities in Thailand?</p>
<p>10. Do you have any other comments on the DSS Centre?</p>

APPENDIX I: The pilot interview schedule comment form

The interview schedule comment form

1. How long did it take to complete the interview?

ระยะเวลาที่ใช้ในการสัมภาษณ์

2. Please comment on the questionnaire's overall.

ท่านมีความคิดเห็นต่อแบบสอบถามอย่างไร

Layout การวางรูปแบบ	Difficult ยาก	Neutral เฉย ๆ	Easy ง่าย
Number of questions จำนวนคำถาม	Long ยาว	Short สั้น	Suitable เหมาะสม
Order of questions ลำดับคำถาม	Not good ไม่ดี	Neutral เฉย ๆ	Suitable เหมาะสม
Clarity of the questions คำถามเข้าใจง่าย	Difficult ยาก	Neutral เฉย ๆ	Suitable เหมาะสม
Vocabulary/wording คำศัพท์ที่ใช้ในคำถาม	Difficult ยาก	Neutral เฉย ๆ	Suitable เหมาะสม
Clarity of the instructions มีคำชี้แจงหรือคำอธิบายที่เข้าใจ	Not clear ไม่ชัดเจน	Neutral เฉย ๆ	Suitable เหมาะสม

3. Which question was found to be the most difficult to understand? Please state the question number (_____)

คำถามไหนที่ยากที่สุดสำหรับคุณ ข้อที่ (_____)

Please state the reason (_____)

สาเหตุ (_____)

4. Did you find any questions that you did not want to answer? (_____)

มีคำถามไหนที่คุณไม่ต้องการตอบหรือไม่ (_____)

☐ No ไม่

☐ Yes มี

(Please state the question number(s) (_____)

ข้อที่ (_____)

Please state the reason (_____)

สาเหตุ (_____)

5. Did you find any questions that you feel should be removed?

มีคำถามที่ควรจะต้องตัดออกหรือไม่

☐ No ไม่

☐ Yes มี

(Please state the question number(s) (_____)

ข้อที่ (_____)

Please state the reason (_____)

สาเหตุ (_____)

6. Please provide any other suggestions about the Interview schedule.

กรุณาให้คำแนะนำอื่น ๆ สำหรับแบบสอบถาม

APPENDIX J: The example coding table and research objectives number 1

To examine disabled students' conceptualisations of disability support services.

Themes

1. Disability background

Category: types of disability and experience with disability support

2. Education background

Category: current study (in university) and previous study (mainstream school and special school for disabled people)

3. Choosing university

Category: awareness on university and motivation of study

4. Awareness of DSS

Category: before having experience with DSS and after having experience with DSS

Example of Coded Text	Code 1	Code 2	Category	Themes
<ul style="list-style-type: none"><i>I am a physically disabled student</i>	Physically impaired disability	Disability	Types of disability	Disability background
<ul style="list-style-type: none"><i>I am paraplegic but can lift my hands</i>	Physically impaired disability	Disability		
<ul style="list-style-type: none"><i>I had rehabilitation between my home and hospital for three years after the accident.</i>	Receiving support from rehabilitation at hospital	Receiving support from rehabilitation at hospital	Experience with disability support	
<ul style="list-style-type: none"><i>I found that the TV show was produced by Vocational School for People with Disabilities, it is a special school for those with physical disabilities.</i>	Receiving support from vocational training in special school	Receiving support from vocational training in special school		
<ul style="list-style-type: none"><i>I am year 2 an undergraduate student, and studying a subject in Social Science at Ayotaya University</i>	Undergraduate student open university	Current study	Current study	Education background
<ul style="list-style-type: none"><i>Physical therapist had talked about that Vocational School, and he suggested that I go there to study.</i>	Vocational training school for disabled people	Graduated from special school for disabled people	Previous study	
<ul style="list-style-type: none"><i>I had an accident when I studied at grade 12 at eighteen years old.</i>	Formal secondary school	Graduate from mainstream secondary school		

Example of Coded Text	Code 1	Code 2	Category	Themes
<ul style="list-style-type: none">Many teachers suggested studying at STOU, as it has a different learning system, and students do not need to go to study every day. Learners can read at home and take an exam at the end of term.	Receiving university information from teacher	Receiving Information about university	Awareness on university	Choosing university
<ul style="list-style-type: none">I met old friends and they told me about learning at Ayotaya University. Their information was similar to that of the teachers	Receiving university information from peers	Receiving Information about university		
<ul style="list-style-type: none">It was interesting, as I thought that learning in HE may open future working opportunities and may result in a higher salary	Interesting in university	Interesting in university	Motivation of study	
<ul style="list-style-type: none">I was looking forward to developing myself and designing my future life. I wanted to graduate, have a good job and study for a bachelor's degree.	Need to improve in the future	Need to improve in the future		
<ul style="list-style-type: none">I was unaware of the DSS centre before I came to study at Ayotaya University	Unaware of the DSS centre	Unaware of the DSS centre	Before having experience with DSS	Awareness of DSS
<ul style="list-style-type: none">I thought it was a centre for charity or help care for disabilities and counseling about rights, financial support fund and support information about learning in Ayotaya University	Thinking about DSS	Thinking about DSS		
<ul style="list-style-type: none">In the middle of the first term, Ayotaya University staff called me and I had just learned about the DSS centre at that time	Receiving information about DSS	learning about the DSS	After having experience with DSS	
<ul style="list-style-type: none">After I called the DSS centre many times, I knew more about this centre, which is a special section for the services of disabled students at Ayotaya University	Receiving information about DSS	Understanding about DSS		

APPENDIX K: Use of the DSS centre and satisfaction towards all of services

	Use of the DSS Centre Yes or No				Satisfaction towards the DSS Centre		
	Yes	(%)	No	(%)	Number	Mean	SD
<i>Induction, registration and enrolment services</i>							
- New student orientation and registration	144	70.9	38	18.7	146	4.09	1.20
- Enrolment for the module classes	136	67.0	45	22.2	147	4.14	1.11
- Registering with the DSS database	141	69.5	41	20.2	148	4.09	1.11
<i>Accommodation services</i>							
- Finding accommodation	92	45.3	86	42.4	119	3.82	1.17
- Providing information concerning about adaptations to accommodation where necessary	58	28.6	120	59.1	122	3.82	1.12
<i>Assistive technology services</i>							
- Recording equipment	86	42.4	93	45.8	111	3.94	1.13
- Borrowing hearing aids for hearing impaired students	7	3.5	109	53.7	112	3.95	1.13
- Special software	22	10.8	159	78.3	117	3.81	1.23
<i>Accessible information services</i>							
- Providing information about supporting learning (Library)	81	39.9	97	47.8	141	3.87	1.16
- Copies of overheads/lecture notes	30	14.8	149	73.4	109	3.94	1.16
- Information about learning or news supplied on alternative format	28	13.8	150	73.9	116	3.85	1.22
- Information in Braille or large size print for visually impaired students	29	14.3	150	73.9	110	3.93	1.16

	Use of the DSS Centre Yes or No				Satisfaction towards the DSS Centre		
	Yes	(%)	No	(%)	Number	Mean	SD
<i>Training skills services</i>							
- Orientation training at the university campus and surrounding area	106	52.2	74	36.5	116	3.91	1.17
- Social skills training or university's activities	120	59.1	57	28.1	136	3.95	1.11
- Tutorials for some modules	95	46.8	84	41.4	133	4.05	1.10
- Counselling for learning, assignments	93	45.8	86	42.4	146	4.13	1.09
<i>Health Services and well-being services</i>							
- Providing information for medical rehabilitation	28	13.8	152	74.9	112	3.78	1.19
- Providing transportation for visits to hospitals or rehabilitation centres	93	45.8	87	42.9	109	3.84	1.15
<i>Transportation services</i>							
- Buses and cars	124	61.1	57	28.1	109	3.74	1.20
- Disability parking	34	16.7	146	71.9	122	3.81	1.18
<i>Assistant services</i>							
- Staff of the DSS centre	141	69.5	31	15.3	137	4.02	1.09
- Interpreter for TSL	58	28.6	124	61.1	106	3.94	1.12
- Peer support	30	14.8	147	72.4	124	3.91	1.16
- A note-taker	27	13.3	151	74.4	124	4.01	1.15

	Use of the DSS Centre Yes or No				Satisfaction towards the DSS Centre		
	Yes	(%)	No	(%)	Number	Mean	SD
<i>Examination support services</i>							
- Provision of extra time in examinations	28	13.8	151	74.4	109	4.00	1.07
- Provision of suitable exam places	115	56.7	64	31.5	117	4.15	1.00
- Provision of assistances for examination	34	16.7	144	70.9	118	4.08	1.15
<i>Job counselling service</i>							
- Careers advice and guidance	116	57.1	63	31.0	123	4.01	1.10
- Career searching	92	45.3	87	42.9	113	4.04	1.15
- Career planning	87	42.9	93	45.8	122	4.05	1.17
- Information, job vacancies & finding employment	94	46.3	86	42.4	115	4.02	1.16

Source: Author / Data Collected through my Online Survey

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